Meridian Solar

Meridian Solar Farm

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Volume 7

Other Documents

7.3 Design Approach Document

APFP Regulation 5(2)(q)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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Contents

Executive Summary

Meridian Solar Farm (the Scheme) is proposed to help meet the urgent national need for home-grown, secure and renewable energy as identified in the National Policy Statements for Energy. The Scheme also provides an opportunity to deliver wider benefits, including biodiversity enhancement, sustainable land management and improved local access.

This **Design Approach Document** (DAD) demonstrates how the Scheme fulfils the requirement for good design, both as a process and in the quality of the Scheme that is delivered. It explains how design aspirations and intentions have been embedded from the outset and how these have shaped the Scheme through an iterative, evidence-led and engagement-driven approach. The document shows how good design has been informed by national policy, landscape and environmental context, technical constraints, the Scheme's Design Principles and feedback received during non-statutory, statutory and targeted consultation.

Good design has been incorporated into the Scheme through a clear vision and a structured set of Design Principles tailored to the distinctive fenland landscape and the operational requirements of a large-scale solar NSIP. These Principles have guided the siting and layout of solar PV infrastructure, substations, BESS, inter-array connections and the 400 kV grid connection, as well as the development of a coordinated landscape, ecological and access strategy.

The Site's context — characterised by its expansive agricultural landscape, drainage systems, heritage features and dispersed settlements — has been fundamental in shaping the proposed design. The iterative design process has responded to this context by avoiding sensitive areas, reducing solar infrastructure heights following detailed flood modelling, refining panel layouts to respect agricultural land quality, maintaining buffers around settlements, heritage assets and Public Rights of Way (PRoWs), and providing extensive habitat management areas to support biodiversity enhancement.

Design evolution has also been informed by technical and engineering requirements, including flood risk, aviation constraints associated with Crowland Airfield, grid connection feasibility, and coordination with National Grid Electricity Transmission's evolving proposals for the Weston Marsh B Substation and the Grimsby to Walpole (G2W) project. Targeted consultation was undertaken to address refinements required by updated grid connection information, demonstrating the Applicant's commitment to transparency and continued engagement.

As a result, the Scheme presented within this Application represents a carefully balanced design that integrates renewable energy generation with landscape character, ecological value, heritage sensitivity and long-term land management. Key features include substantial habitat management areas, the creation of a new permissive path, reduced infrastructure heights, refined offsets from residential receptors, the relocation and consolidation of substations and BESS, and a coordinated overhead line (OHL) alignment designed with reference to the Holford Rules and cumulative infrastructure.

The delivery of good design will be secured through Requirements within the Draft Development Consent Order (DCO) and certified control documents, including the Design Parameters, Outline Landscape and Ecology Management Plan (OLEMP) and other environmental management plans. These mechanisms ensure that the detailed design will accord with the embedded mitigation assessed in the Environmental Statement and deliver the outcomes set out in this DAD.

Overall, the Scheme has been developed through a robust, iterative and environmentally led process that delivers a well-designed, policy compliant and resilient renewable energy scheme, capable of making a significant contribution to the UK's transition to net zero while respecting and enhancing the fenland landscape and its communities.

1. Introduction

1.1. Overview

1.1.1. Meridian Solar Farm (the Scheme) is a Nationally Significant Infrastructure Project (NSIP) comprising a large-scale solar photovoltaic (PV) electricity generating station with co-located Battery Energy Storage System (BESS), associated substations, inter-array connections and a new 400kV Grid Connection to National Grid's proposed Weston Marsh B substation. This DAD sets out how good design has been embedded into the development of the Scheme to date, and how it will continue to be embedded throughout the detailed design stage following the granting of the DCO.

1.1.2. Planning policy and national infrastructure design guidance consistently emphasise that "good design" extends well beyond physical appearance. It encompasses sustainability, resilience, functionality, efficient land use, environmental protection, and sensitivity to local landscape and communities. Given the scale and distributed land parcels of the Scheme, a design-led approach has been essential from the outset. This document described that approach, supported by an iterative design process informed by technical assessments, engagement with statutory and non-statutory consultees, and consultation with local communities.

1.1.3. The Scheme is located within south-east Lincolnshire, north of Crowland and east of Spalding, extending across four land parcels (A, B, C, and D), together forming the Solar Development Area. The landscape surrounding the Site is characterised by expansive arable farmland, drainage ditches, and a dispersed pattern of villages and hamlets typical of the Fens. The Scheme's key components – including the Solar Development Area, underground and overhead Inter-Array Connections, and the 400kV Grid Connection Route – are described in detail within **ES Chapter 2: The Scheme** (Doc Ref 6.1). The location of these components is illustrated in Figure 1-1.

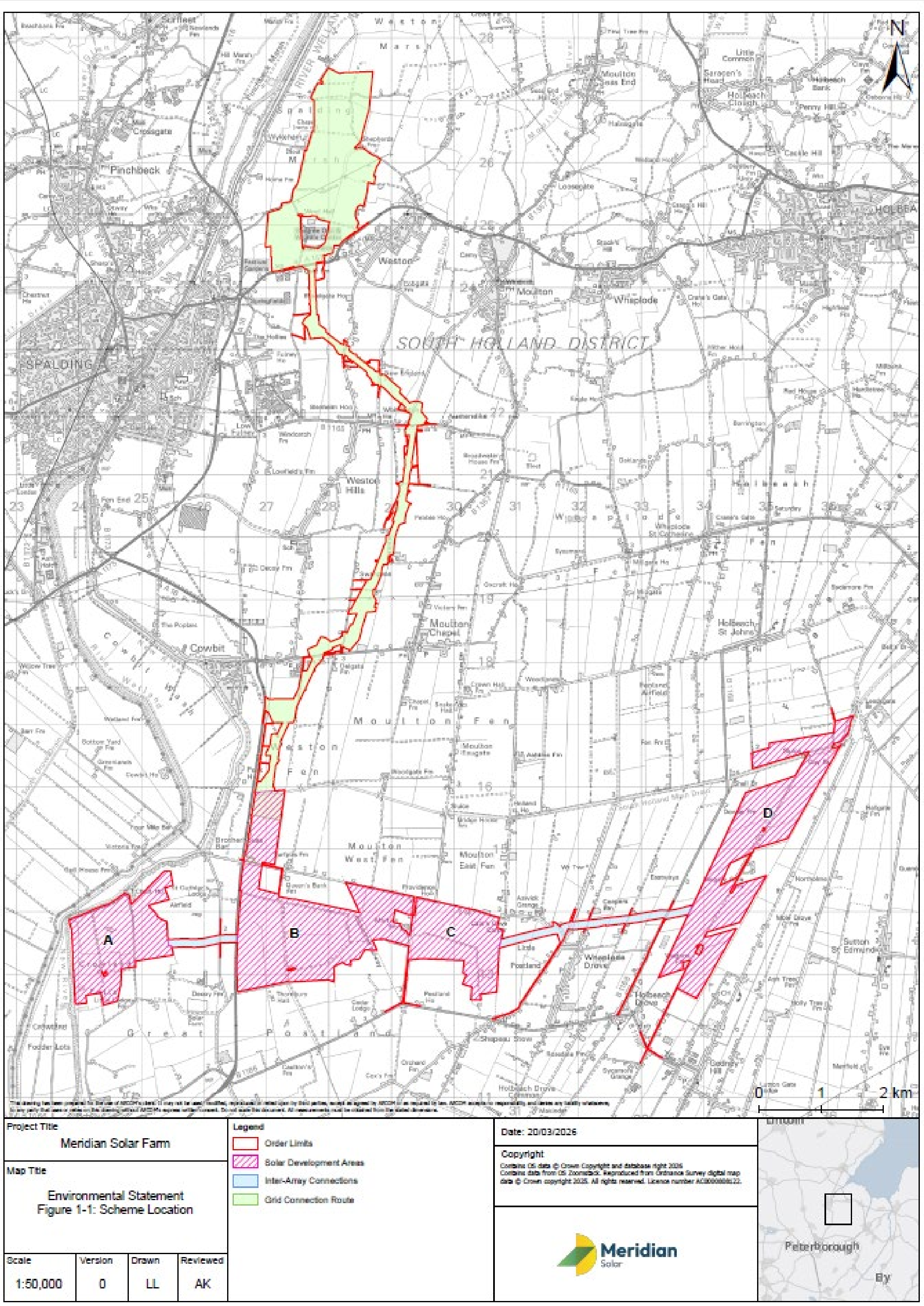

Figure 1-1 Scheme Location

1.2. The Components of the Scheme

1.2.1. The Scheme is made up of the following areas:

- **Solar Development Area**: The solar PV panels, associated BESS, on-site substations and other associated infrastructure would be located within four land parcels (A, B, C and D) referred to collectively as the 'Solar Development Area'.

Figure 1-2 Illustrative Array of Solar PV Modules

- **Inter-Array Connections**: The Inter-Arrays would be the areas within which single circuit 132kV connection cables (the 'Inter-Array Connections') would link the land parcels of the Solar Development Area. The configuration of the Inter-Array Connections would comprise underground cabling between Land Parcels A and B ('the Underground Inter-Array') and an OHL between Land Parcels C and D ('the Overground Inter-Array').

Figure 1-3 Indicative wood pole design for Overground Inter-Array

- **Grid Connection Route**: The Grid Connection Route would be the area between the Solar Development Area and the National Grid Weston Marsh B Substation in which a 400kV OHL (the 'Grid Connection') would be located. There is a section where the Grid Connection would route underground to avoid conflicts with an existing 132kV OHL. Two Cable Sealing End Compounds would join the proposed underground cable with the proposed OHL.

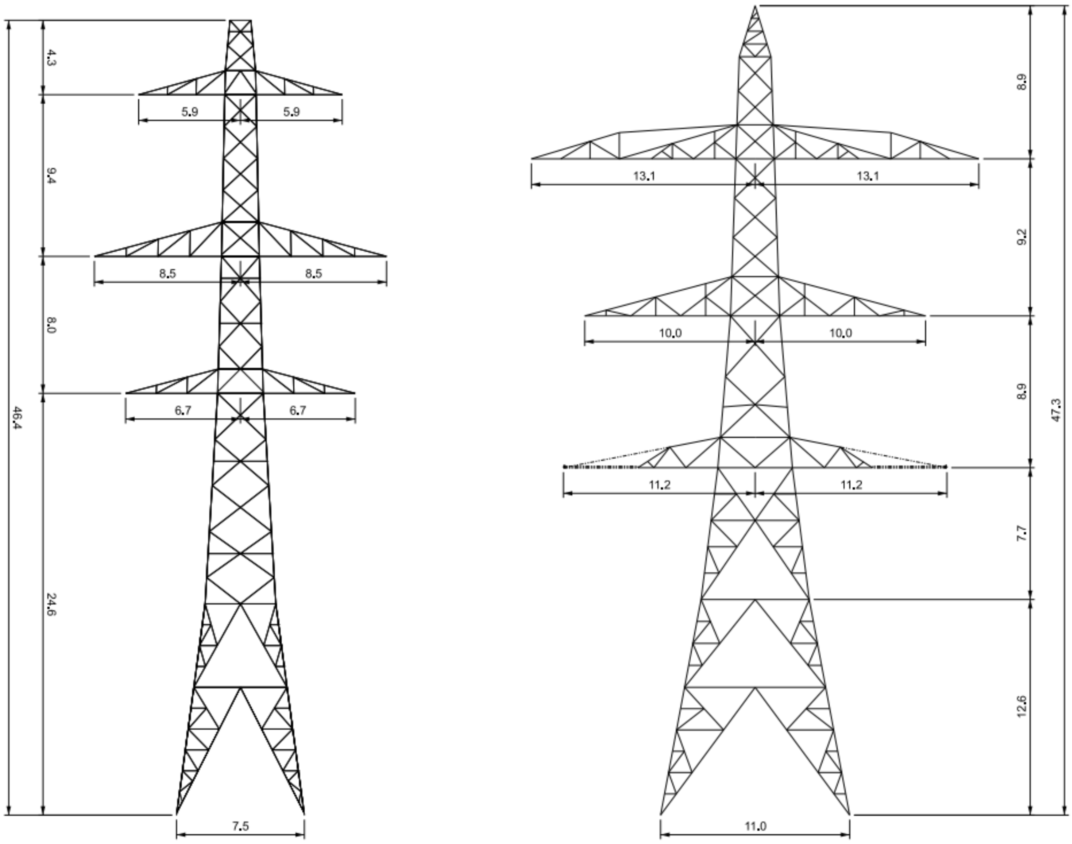

Figure 1-4 Grid Connection Illustrative Pylons

1.2.2. The Site constitutes the total land area within the Order Limits of the Scheme, including the Solar Development Area, Inter-Array Connections and Grid Connection Route, as shown on the Site Location Plan above (Figure 1-1). A summary of the areas for each part of the Scheme is provided below:

- Solar Development Area - Land Parcel A: 197 hectares (ha);
- Solar Development Area - Land Parcel B: 335ha;
- Solar Development Area - Land Parcel C: 205ha;
- Solar Development Area - Land Parcel D: 330ha;
- Underground Inter-Array between Land Parcel A & B: 15ha;
- Overhead Inter-Array between Land Parcel C & D: 46ha;
- Grid Connection Route: 510ha; and

- Site (total): 1,616ha [1].

1.2.3. Other key elements of the Scheme include an On-Site 400kV Substation and BESS compound within the northern part of Land Parcel B, and three 132 kV On-Site Substation Compounds (one each in Parcels A, C and D).

Figure 1-5 Illustrative image of a substation

Figure 1-6 Illustrative BESS Unit

1.2.4. **ES Chapter 2: The Scheme** (Doc Ref. 6.1) provides a full description of the Scheme.

[1] Note the sum of parts for the areas of the Scheme exceeds the total area of the Order Limits due to an overlap of the Grid Connection Route with Solar Development Area Land Parcel B.

1.3. Purpose and Structure of this Document

1.3.1. The DAD has been produced pursuant to Regulation 5(2)(q) of The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (APFP Regulations) and forms part of a suite of supporting documents for the DCO Application.

1.3.2. The purpose of this DAD is to:

- describe the design of the Scheme.
- explain how it has responded to its context and how it has been shaped through consultation and engagement.
- explain how the principles of good design have been embedded throughout the design process from the outset.
- outline the way in which the design has evolved since inception, including the rationale for the proposals contained within the DCO Application.
- outline the mechanisms by which good design will be secured once the DCO is granted.

1.3.3. The area subject to the DCO Application (the Order Limits) is shown on the **Overall Location Plan** (Doc Ref. 2.1). Land within the Order Limits is referred to as the Site.

1.3.4. The location of the Scheme is described in **ES Chapter 1: Introduction** (Doc Ref. 6.1). Further details of the Scheme are provided in **ES Chapter 2: The Scheme** (Doc Ref. 6.1). **ES Chapter 3: Alternatives and Design Evolution** (Doc Ref. 6.1) explains how alternative technologies and related design choices have been considered through the development of the project. The **Planning Statement Appendix D: Site Selection Report** (Doc Ref. 7.1) outlines the rationale for the identification and selection of the Site for the development of the Scheme.

1.3.5. Where appropriate, other relevant application documents and plans are referred to in subsequent sections of this DAD, and should be read alongside this document.

1.4. Document Structure

1.4.1. This document has been set out into the following sections:

- Good Design – Policy and Guidance: Provides a summary of the policy and guidance for achieving good design for infrastructure.
- Site Context: Provides an overview of the physical, environmental, social and cultural context of the Scheme which has informed the design.

- Design Approach: Establishes the approach to delivering good design via a clear design framework and the mechanisms by which it will be secured at detailed design.
- Design Flexibility: Explains how flexibility is being addressed within the DCO application.
- Design Evolution: Explains the evolution of the design from inception to DCO application.
- How the Scheme Meets the Vision and Principles: Summarises the operational design of the Scheme and demonstrates how it has responded to each of the Design Principles.
- Deliverability of Good Design: Explains how the good design will be delivered and secured.
- Conclusion: Provides a summary of the design proposals and how they fulfil the requirement for good design.

2. Good Design – Policy and Guidance

2.1. Policy and Guidance Context

2.1.1. The Scheme is founded on principles of 'good design' which have been informed by national policy and guidance on the design of major energy infrastructure. Relevant local documents and guidance are also summarised below in respect of design.

2.1.2. The Act requires that, in deciding a DCO application to which a National Policy Statement (NPS) has effect, the Secretary of State must have regard to any relevant NPS, any local impact report, and any other matters considered both *"important and relevant"* to the decision.

2.1.3. The relevant NPSs in respect of the DCO Application for the Scheme are the Overarching National Policy Statement for Energy (EN-1)[2], National Policy Statement for Renewable Energy Infrastructure (EN-3)[3] and National Policy Statement for Electricity Networks Infrastructure (EN-5)[4].

2.1.4. The main documents that may be considered important and relevant to the Secretary of State's decision also include:

- the National Planning Policy Framework; and
- policies from the adopted development plan and other relevant planning policy documents.

2.2. National Policy Statements

Overarching National Policy Statement for Energy (EN-1)

2.2.1. The overarching need case for each type of energy infrastructure and the substantial weight which should be given to this need in assessing applications, as set out in paragraphs 3.2.8 to 3.2.10 of EN-1, is the starting point for all assessments of energy infrastructure applications.

2.2.2. Section 4.7 of EN-1 sets out criteria for good design for energy infrastructure. It states that "*Applying good design to energy projects should produce sustainable infrastructure sensitive to place, including impacts on heritage, efficient in the use of*

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[2] https://assets.publishing.service.gov.uk/media/65bbfbdc709fe1000f637052/overarching-nps-for-energy-en1.pdf
[3] https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/nps-renewable-energy-infrastructure-en3.pdf
[4] https://assets.publishing.service.gov.uk/media/65a78a5496a5ec000d731abb/nps-electricity-networks-infrastructure-en5.pdf

natural resources, including land-use, and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible." (paragraph 4.7.2).

2.2.3. EN-1 acknowledges that the "*nature of energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area*" (paragraph 4.7.2).

2.2.4. Paragraph 4.7.3 of EN-1 states that "*good design is also a means by which many policy objectives in the NPSs can be met, for example the impact sections show how good design, in terms of siting and use of appropriate technologies, can help mitigate adverse impacts such as noise*".

2.2.5. More generally, EN-1 explains the need to consider good design from the early stages of the design process, stating that *"design principles should be established from the outset of the project to guide the development from conception to operation"* (Paragraph 4.7.5). Footnote 102 of EN-1 states that *"Design principles should take into account any national guidance on infrastructure design, this could include for example the Design Principles for National Infrastructure published by the National Infrastructure Commission".*

2.2.6. Section 4.7 of EN-1 states that the Applicant must demonstrate how the design process was conducted and how the proposed design evolved in their application. Paragraph 4.7.8 states that *"Applicants should also consider any design guidance developed by the local planning authority".*

2.2.7. EN-1 recognises the typical location of NSIPs and states that "*Virtually all nationally significant energy infrastructure projects will have adverse effects on the landscape*" (paragraph 5.10.5) and that "*All proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites*" (paragraph 5.10.13).

2.2.8. Paragraph 5.10.6 of EN-1 states that "*Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate*".

National Policy Statement for Renewable Energy Infrastructure (EN-3)

2.2.9. EN-3 provides national policy for renewable energy infrastructure and also recognises the role that good design should play in the context of achieving the Government's urgent and overriding need for solar energy infrastructure. Paragraph 2.12.14 states that *"To maximise existing grid infrastructure, minimise disruption to existing local community infrastructure, biodiversity or heritage assets and reduce overall costs, applicants may choose a site based on nearby grid export capacity".* Paragraph 2.10.53 states that for a *"solar farm to generate electricity efficiently the panel array spacing should seek to maximise the potential power output of the Site".*

2.2.10. In terms of scheme design and evolution, EN-3 (at paragraph 2.10.51) sets out that applicants should consider the criteria for good design set out in NPS EN-1 (Section 4.7) at an early stage when developing projects.

2.2.11. Paragraph 2.5.2 of EN3 states that "*Proposals for renewable energy infrastructure should demonstrate good design, particularly in respect of landscape and visual amenity, opportunities for co-existence/co-location with other marine and terrestrial uses, and in the design of the project to mitigate impacts such as noise and effects on ecology and heritage*."

National Policy Statement for Electricity Networks Infrastructure (EN-5)

2.2.12. EN-5 is the primary basis for decisions for NSIPs comprising transmission and distribution system infrastructure and is, therefore, relevant in respect of the OHL connection which forms part of the Scheme. Paragraph 2.4.2 confirms that applicants should consider the criteria for good design as set out in NPS EN-1 at an early stage when developing projects.

2.2.13. Paragraph 2.4.3 of EN-5 states that "*the Secretary of State should bear in mind that electricity networks infrastructure must in the first instance be safe and secure, and that the functional design constraints of safety and security may limit an applicant's ability to influence the aesthetic appearance of that infrastructure*."

2.2.14. Regarding technology choice for electricity transmission infrastructure, Paragraph 2.9.21 of EN-5 clearly sets out the Government's presumption in favour of overhead lines as the starting point for projects. This presumption is reversed where proposed developments would cross part of a nationally designated landscape (i.e. National Park, The Broads, or National Landscape).

2.2.15. Paragraph 2.9.14 of EN-5 states that "*where the nature or proposed route of an overhead line will likely result in particularly significant landscape and visual impacts, as would be assessed through seascape, landscape and visual impact assessment (SLVIA), the applicant should demonstrate that they have given due consideration to the costs and benefits of feasible alternatives to the overhead line*".

2.3. National Planning Policy Framework

2.3.1. The National Planning Policy Framework (NPPF)[5], most recently updated in December 2024, sets out the Government's planning policies for England and how these should be applied.

2.3.2. The NPPF actively supports renewable and low carbon energy development, with the environmental objective supporting *"moving to a low carbon economy"*

[5] https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

(paragraph 8). Paragraph 161 states that the planning system should support the transition to net zero by 2050 and support renewable and low carbon energy and associated infrastructure.

2.3.3. Paragraph 168 states that when determining planning applications for all forms of renewable and low carbon energy developments and their associated infrastructure, local planning authorities should *"a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal's contribution to a net zero future;"*.

2.3.4. 'Good design' is described in paragraph 131 of the NPPF which states that "*The creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities.*"

2.4. Local Plan

2.4.1. The Site is located entirely within the administrative areas of Lincolnshire County Council (LCC) and South Holland District Council (SHDC).

2.4.2. The development plan for the Site comprises the South East Lincolnshire Local Plan (SELLP)[6] (adopted March 2019) and the Lincolnshire Minerals & Waste Local Plan (adopted June 2016)[7].

2.4.3. The SELLP contains general policies on design. Policy 3 (Design of New Development) states that 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.

2.4.4. Policy 31 (Climate Change and Renewable and Low Carbon Energy) states in respect of renewable energy 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;

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[6] https://southeastlincslocalplan.org/media/21941/South-East-Lincolnshire-Local-Plan-2011-2036/pdf/Local-Plan-text-March-2019.pdf?m=1720710748483

[7] https://www.lincolnshire.gov.uk/downloads/file/2361/core-strategy-and-development-management-policies

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."

2.5. Guidance

2.5.1. There are a number of relevant documents which provide further guidance on design.

Planning Inspectorate Advice on Good Design for NSIPs

2.5.2. The Planning Inspectorate has published Advice on Good Design for NSIPs[8] which was last updated on 16 April 2025. The Advice explains that NPSs set out the requirement to deliver good design and the criteria by which it will be assessed. It states that good design is crucial for achieving excellent functionality, sustainability, positive place-making and resilience in NSIPs.

2.5.3. Annex A of the Advice sets out the considerations relating to good design which applicants should consider before applying for acceptance under section 55 of the Act. The schedule provided in **Appendix 1** of this DAD summarises how the Applicant has considered each of these considerations in respect of the DCO Application for the Scheme.

2.5.4. The current Advice refers to the Design Principles for National Infrastructure and the Project Level Design Principles published by the National Infrastructure Commission (NIC) (albeit that the NIC was superseded by the National Infrastructure and Service Transformation Authority (NISTA) in April 2025). Accordingly, these guidance documents are summarised below.

Design Principles for National Infrastructure, National Infrastructure Commission (February 2020)

2.5.5. The National Infrastructure Commission's Design Group published its own Design Principles for National Infrastructure to guide projects which will upgrade and renew the UK's infrastructure system. The document sets out four design principles which infrastructure projects should consider at their design stage:

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[8] https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-good-design

- Climate: mitigate greenhouse gas emissions and adapt to climate;
- People: reflect what society wants and share benefits widely;
- Places: provide a sense of identity and improve the environment; and
- Value: achieve multiple benefits and solve problems.

2.5.6. The document explains how everyone involved should appreciate the wider context, engage meaningfully and continually measure and improve when considering the four design principles.

Project Level Design Principles, National Infrastructure Commission (May 2024)

2.5.7. This provides guidance on developing and implementing design principles for major infrastructure projects and builds on the high-level design principles (climate; people; places; and value) outlined above.

2.5.8. The guidance recommends project leaders:

- Make sure there is a genuine commitment from the most senior levels of the project to using a structured design process from the earliest stages.
- Put principles in place before taking any decisions – and once in place, ensure they become a key part of the governance framework, informing all decision making.
- Make sure that principles support the widest range of outcomes (not just operational functions) and that they are used to directly inform each design iteration.
- Keep revising the principles as new information comes to light and use them to manage an evolving project effectively.

3. Site Context

3.1. Site Overview and Order Limits

3.1.1. The Scheme is a proposed solar farm with associated battery storage and infrastructure. The Scheme has been developed on the basis of a future connection to the National Electricity Transmission System (NETS) at Weston Marsh, in a substation to be consented and built under National Grid's proposed G2W project. As part of the NESO Connections Reform, the Applicant has received a Gate 1 offer, with the final export capacity and detailed connection configuration to be confirmed through subsequent application rounds. The Scheme is designed to connect to the National Grid at Weston Marsh B Substation, with an anticipated export capacity of up to 750MW, enough to power more than 215,000 homes annually. This capacity aligns with the original offer received by the Scheme, prior to the Connections Reform, and which the Applicant understands is still the relevant figure to plan its capacity to based on engagement with National Grid to date.

3.1.2. As described in detail in the Site Selection Report, Appendix D to the **Planning Statement** (Doc Ref. 7.1), the area within which the Site is located was considered for development because of several features which support solar development infrastructure. These include:

- high levels of solar irradiation in the area;
- proposed National Grid infrastructure to be delivered in the area has capacity to connect the level of generation proposed at the site;
- the presence of large plots of available land in close proximity to each other in order to deliver a coherent scheme;
- the existence of large open areas of undeveloped land, which is predominantly made up of flat topography and generally sparse settlement patterns;
- Agricultural Land Classification provisional mapping indicated that, whilst the area was considered likely to be BMV land, opportunities to predominantly avoid areas provisionally anticipated to be Grade 1 Agricultural Land were feasible for the Solar Development Areas;
- the land is not located within or close to National Parks, National Landscapes or other designated areas of high landscape value;
- the land is not located within or close to internationally and nationally designated biodiversity sites;
- the land is not located within the Green Belt;

- there are relatively few residential properties in immediate proximity to the Order limits and the impact on those that can be effectively mitigated through offsets and sensitive landscaping; and
- the Site benefits from close proximity to the A16 which would provide good access to the road network, with shorter movements utilising the local road network.

3.1.3. The Scheme is located within the administrative boundaries of LCC and SHDC. The Solar Development Area and Inter-Array Connections would be located within the boundaries of the five civil parishes of Crowland, Whaplode, Holbeach, Fleet and Cowbit parishes. The Grid Connection Route would be located within the boundaries of the two civil parishes of Weston and The Moultons.

3.1.4. The Solar Development Area comprises four principal land parcels (A, B, C and D):

- Parcel A – Land to the east and west of Cloot Drove
- Parcel B – Land to the south of Queen’s Bank
- Parcel C – Land to the east and west of Martins Road
- Parcel D – Land to the east and west of Langary Gate Road

3.1.5. Two Inter Array Connections are identified which link the land parcels with electrical infrastructure. These are located between Land Parcels A and B, and between Land Parcels C and D.

3.1.6. The Grid Connection Route will facilitate the connection from the Solar Development Area to the NETS and extends from the northernmost extent of Parcel B and continues north to the location of the proposed new Weston Marsh B substation to be consented and delivered by National Grid Electricity Transmission (NGET).

3.1.7. The following section provides a brief overview of the baseline information associated with the land within the Site that has guided the design evolution of the project along with stakeholder engagement and consultation feedback. Further details relating to baseline information is contained within the relevant chapters of the **ES** (Doc Ref. 6.1).

3.2. Topography

3.2.1. The topography within the study area is predominantly flat and low lying, which is a key characteristic of The Fens. The embankment associated with the River Welland, on its eastern side, provides an elevated view of the landscape surrounding the Site from the PRoW Crow 7/1 and National Cycle Network (NCN) SUSTRANS 12. Across the Solar Development Area, there is little fluctuation in topography, adding to the long, open views in this location.

3.2.2. Low-lying topography is also typical within the wider area, with similar elevated views found along river embankments, including the River Welland embankment at Fosdyke, the River Glen embankment north of Baston to the southwest and the embankment of the South Holland Main Drain at Tydd St Mary, to the east. The highest areas within the wider area can be found to the south, along the northern edge of Peterborough, between the A15, A16 and A47, to the west of Eye.

3.3. Landscape Character, Visual and Green Infrastructure

3.3.1. The Site does not interact with any statutory landscape designations (National Landscapes or National Parks). The nearest National Landscape is Norfolk Coast, approximately 24km to the east of the Site, and the nearest National Park is The Broads, located approximately 86km to the east.

3.3.2. The Site is not located within Green Belt, the nearest of which surrounds Cambridge approximately 47km from the Site at its closest point.

3.3.3. The Site is located within National Character Area 46 (NCA) The Fens, recognised by its large, low-lying, flat landscape with drainage ditches, dykes and rivers.

3.3.4. The key characteristics of NCA 46 relating to the Scheme and for consideration through the evolving design process are:

- Expansive, flat, open, low-lying wetland landscape influenced by the Wash estuary, offering extensive vistas to level horizons and huge skies throughout, providing a sense of rural remoteness and tranquillity;
- Sparse levels of woodland cover, notably contained within a few small woodland blocks, occasional avenues alongside roads, isolated field trees and shelterbelts of poplar, willow and occasionally leylandii hedges around farmsteads, and numerous orchards around Wisbech;
- Agriculture is the predominant land use – wheat, root crops, bulbs, vegetables, and market gardening made possible by actively draining reclaimed land areas;
- The presence of open fields, bounded by a network of drains and the distinctive hierarchy of rivers (some embanked), has a strong influence on the geometric/rectilinear landscape pattern. The structures create local enclosure and a slightly raised landform, which is mirrored in the road network that largely follows the edges of the system of large fields;
- The area is very rich in geodiversity and archaeology, with sediments containing evidence for past environmental and climate changes and with high potential for well-preserved waterlogged site remains at the fen edge, within some of the infilled paleo-rivers and beneath the peat; and

- A network of villages that are dispersed ribbon settlements along the main arterial routes through the settled fens, with scattered farms that remain as relics of earlier agricultural settlements.

3.3.5. **ES Chapter 12 Landscape and Visual** (Doc Ref. 6.1) provides further information and narrative regarding baseline and the national and local Landscape Character Areas that fall within the boundaries of the site.

3.4. Local Settlements

3.4.1. The largest settlement within proximity of the Solar Development Area is Crowland, with Spalding and Weston being the largest settlements close to the Grid Connection Route. Peterborough, the largest nearby city, is approximately 12km to the southwest of the Solar Development Area. There are several small villages, hamlets and individual properties and farmsteads dispersed throughout the area surrounding the Scheme. Overall, the Scheme is located within a relatively sparsely populated rural area, where individual properties are typically associated with the surrounding agricultural landscape.

Figure 3-1 Example of agricultural landscape at Cloot Drove, just north of Crowland

3.4.2. A number of villages to the south-east of the Solar Development Area, including Shepeau Stow, Whaplode Drove, Holbeach Drove and Gedney Hill, contain designated heritage assets that contribute to local identity and sense of place. These include listed churches and historic features such as Holy Trinity with St Polycarp Church at Gedney Hill, the nearby Meridian Stone, and St Guthlac's Cross, as well as historic windmills characteristic of the fenland landscape. Shepeau Stow, in particular, has been identified through consultation for its historic core and associated historic features. These settlements are generally in linear form, either located on or extending away from the B1166.

3.4.3. To the north-west of the Solar Development Area, settlements including Cowbit, Moulton Chapel and Weston Hills also contain Listed Buildings and heritage features such as mills, historic churches and farmhouses. Within Moulton Chapel, consultation responses have highlighted the Grade II* listed Chapel of St James and its surrounding historic landscape context as being of particular local importance. Further north, Spalding and Moulton, located towards the northern end of the Grid Connection Route, contain Conservation Areas and a higher concentration of listed buildings reflecting their larger settlement scale and historic development.

3.4.4. Along the southern half of the Grid Connection Route, residential settlements such as Cowbit and Moulton Chapel lie to the east or west of the Order Limits. Further north along the Grid Connection Route, additional settlements including Weston Hills, Moulton and Weston are located adjacent to the corridor. Beyond these areas, dispersed industrial units and infrastructure become more frequent, including overhead electricity lines, telecommunication masts, wind turbines and major road infrastructure, reflecting the transitional character between rural settlements and the wider infrastructure landscape.

Figure 3-2 Example of rural and infrastructure landscape near Weston

3.5. Ecology and Biodiversity

3.5.1. The Site comprises a variety of habitats, including, but not limited to, arable cropland, grasslands, scrub, hedgerows, woodland, ponds and watercourses. These have the potential to support a range of protected and notable species, including, but not limited to, bats, badgers, breeding and wintering birds, great crested newts, otters and water voles.

3.5.2. There are no nationally designated ecological sites within 2km of the Site. The closest, Surfleet Lows Site of Special Scientific Interest (SSSI) and Cowbit Wash SSSI are located approximately 3.5km north-west and 3.6km west of the Site respectively.

3.5.3. There are three statutory internationally designated ecological sites within 15km of the Site. The closest, The Wash Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar, is located approximately 8.4km north-east of the Site. Nene Washes SAC, SPA and Ramsar, and Baston Fen SAC are located approximately 11.8km south of the Site and 10km west of the Site respectively.

3.5.4. The Order Limits intersect four non-statutory nature conservation designations (The Slys Connection, South Holland Main Drain, Lambert Drain to Highstock

Drain Connection and Wheatmere Drain Local Wildlife Sites (LWSs)). A further nineteen non-statutory sites designated as LWS, are present within 2km of the Site.

3.5.5. There is no mapped Ancient Woodland within 2 km of the Site boundary. There are a small number of Tree Preservation Orders (TPO) that are adjacent to the site.

3.5.6. A full description of the baseline is outlined within **ES Chapter 9: Ecology and Biodiversity** (Doc Ref. 6.1) and associated appendices.

3.6. Cultural Heritage

3.6.1. There are no World Heritage Sites, Registered Parks and Gardens or Registered Battlefields or Protected Wreck Sites within 5km of the Site.

3.6.2. Two Scheduled Monuments are located within the Solar Development Area:

- Settlement NE of Whitebread Farm; and
- Settlement W of Cate's Cove Corner.

3.6.3. In addition, the 'Medieval boundary earthworks at Queen's Bank, 100m south east of Providence House' Scheduled Monument and the 'Wykeham Chapel: a moated monastic grange and retreat house' Scheduled Monument lie immediately adjacent to the Order Limits.

3.6.4. Further designated heritage assets, including additional Scheduled Monuments, Listed Buildings and Conservation Areas lie within the wider 5km study area.

3.6.5. There are no listed buildings within the Site. A number of Listed Buildings, including Grade I, Grade II* and Grade II buildings are located within the broader study area, with those closest to the Grid Connection Route including Wkyeham Chapel (Grade I) and other Grade I and Grade II* churches in local settlements.

3.6.6. There are two Conservation Areas located within 5km of the Solar Development Area (Crowland Conservation Area and Parson Drove Conservation Area). There are three Conservation Areas within 5km of the Grid Connection Route (Moulton Conservation Area, Spalding Conservation Area and Pinchbeck Conservation Area).

3.6.7. The Solar Development Area, Inter-Array Connections and the southern section of the Grid Connection Route are located within The Fens Historic Landscape Character Area. The northern section of the Grid Connection Route is located within The Wash Historic Landscape Character Area.

3.6.8. Non-designated archaeological assets are widespread across the Site, reflecting long-term human activity in the fenland landscape from the prehistoric period onwards. Evidence includes prehistoric and Roman-period enclosures and field systems, medieval settlement and agricultural features, and extensive postmedieval drainage infrastructure. Archaeological evaluation has also identified evidence of twentieth-century activity, including World War II aircraft crash sites within Land Parcels A and D, which has informed the layout of the Scheme.

3.6.9. A full description of the baseline is outlined within **ES Chapter 8: Cultural Heritage** (Doc Ref. 6.1) and associated appendices.

3.7. Agricultural Land

3.7.1. Agriculture is the primary existing land use within the Site. The Site comprises large fields typically surrounded by steep man-made drainage ditches, accessed by gates, openings and tracks for use by agricultural machinery.

3.7.2. Agricultural land is categorised using the Agricultural Land Classification (ALC) system, which assesses land according to its versatility and productivity. Grade 1 determined as high-yielding agricultural land with few limitations for agricultural use, and Grade 5 as very poor-quality agricultural land with severe limitations to its use. Grade 3 is divided into subgrades 3a ‘good’ and 3b ‘moderate’ quality land. Grades 1, 2 and 3a are defined as Best and Most Versatile (BMV) land in paragraph 5.11.12 of EN-1.

3.7.3. Detailed ALC surveys conducted within the Solar Development Area indicate a mix of Grades 1, 2, subgrade 3a and subgrade 3b soils. Results have informed the design process, with the Scheme seeking to avoid permanent impacts on land of the highest quality where practical.

3.7.4. Following engagement with Natural England, ALC survey results have been reported using two methodologies to ensure a transparent reporting mechanism within **ES Chapter 5 Agriculture and Soils (Doc Ref. 6.1)**. The two methods of reporting are ‘Averaged Soil Type’ and ‘Individual Auger Point’. For the purposes of the DAD, the worst-case outcome from these methodologies is presented, which identifies the following distribution within the Solar Development Area:

- Grade 1 – 11.3%;
- Grade 2 – 8.7%;
- Grade 3a – 19.2%;
- Grade 3b – 49.1%;
- Grade 4 – 0%;
- Grade 5 – 0%; and
- The remaining areas did not comprise agricultural land or could not be accessed for surveys – 11.7%.

3.7.5. Overall, 39.2% of the Solar Development Area was considered to comprise BMV land (i.e. Grades 1, 2 and Subgrade 3a).

Figure 3-11 Auger point survey results

3.8. Water Resources

3.8.1. A distinctive feature of the local landscape is the extensive network of large, linear drainage ditches and man-made dykes that run along field boundaries and close to rural roads and PRoWs. The two principal hydrological features influencing the Site are the River Welland, located to the west of the Solar Development Area and Grid Connection Route, and the South Holland Main Drain, which crosses the Site in two locations as it flows northwards.

3.8.2. Environment Agency Flood Risk Mapping identifies that the majority of the Solar Development Area, Inter Array Connections and Grid Connection Route lie within Flood Zones 2 and 3. Although this mapping indicates a high fluvial flood risk when considered on an undefended basis, the area benefits from substantial existing flood defences associated with the River Welland and the internal drainage district network, which significantly reduce the actual level of flood risk within the Order Limits.

3.8.3. In relation to surface water flooding, the majority of the Site is at low risk. There are small areas across the Site that are at medium or high risk and are likely to be associated with areas of low topography where surface water site and pools rather than draining away.

3.8.4. Further information in relation to the water environment, including flood risk and drainage considerations, is contained within **ES Chapter 11 Hydrology and Flood Risk** (Doc Ref. 6.1).

3.9. Access and Recreation

3.9.1. The A16 is the main road present within the area, extending from the south-west to the north-east of the 15km study area. The A151 extends from the A16, heading east towards Holbeach and the A17. The B1166 is located to the south of the study area and extends from the A16 east towards Gedney Hill before it changes direction.

3.9.2. A large network of local rural roads connects small villages and hamlets throughout the study area. A number of these are narrow, single track lanes, generally located in more isolated areas where properties are dispersed.

3.9.3. The main railway connection in the area is the line linking Spalding to the East Coast Main Line, which passes through Deeping St Nicholas to the west of the Grid Connection Route. Spalding Station, located approximately 3.6km west of the Site, provides regional rail services.

3.9.4. There are 13 PRoW fully or partially within the Site, including routes crossing Land Parcel C and sections of the Grid Connection Route. Additional PRoWs are located within 500 m of the Order Limits. Where present, PRoWs typically follow drainage ditches, field boundaries or raised banks, particularly in the vicinity of the River Welland. A strip of registered Common Land also runs along the eastern verge of Martins Road, crossing Land Parcel C and providing public access within this part of the Site.

3.9.5. Further information in relation to access and recreation is contained within **ES Chapter 15 Traffic and Access** (Doc Ref. 6.1).

3.10. Summary of Constraints and Opportunities

3.10.1. Considering the baseline information detailed in the above section, the following key constraints and opportunities have influenced the development of the Scheme's design.

Constraints

- Areas of flood risk, including large areas of Flood Zone 2 and 3 across the Site, notwithstanding the presence of existing flood defences;
- Extensive network of existing drains, ditches and watercourses across the Site, including the South Holland Main Drain which crosses the Site in two locations, affecting layout, access and drainage design;
- Crowland Airfield, requiring safeguarding measures and influencing decisions on the Underground Inter-Array and the placement of infrastructure;
- Protection of the character and setting of nearby villages and dispersed residential properties, including those close to the Order Limits;

- The need to reduce potential impacts on the character of the landscape and embedding characteristic features as part of the mitigation strategy;
- Protection of heritage assets and Scheduled Monuments located within and in close proximity to the Site;
- The presence of BMV land within the Site, requiring the design to minimise permanent land-take on Grades 1, 2 and 3a where practicable;
- Use of the Site by protected and notable species, including breeding and wintering birds associated with internationally designated sites, informing the approach to buffers, habitat provision and construction methods; and
- Need to protect and retain existing vegetation, where present along field boundaries, while new planting supports local landscape character rather than altering the inherently open fenland setting.
- Presence of existing utility infrastructure across the Site, including a 132kV OHL requiring undergrounding and other buried assets influencing alignment and construction logistics.

Opportunities

- The location of the Order Limits within proximity to A roads allows for efficient access to a large proportion of the Scheme without the necessity to extensively use local roads;
- The predominantly flat landform and large field pattern lends itself to accommodating solar development without extensive vegetation removal or earthworks;
- Opportunity to enhance the sparce existing green infrastructure, introducing sensitively designed planting such as scattered trees and shrubs aligned with fenland character rather than dense hedgerow belts;
- Extensive arable landcover provides opportunities for habitat creation, biodiversity enhancement and long-term land management benefits, including species-rich grassland and farmland-bird mitigation areas; and
- The presence of existing PRoWs present opportunities to improve public access through the introduction of a permissive path that enhances recreational connectivity.

4. Design Approach

4.1. Introduction

4.1.1. This document outlines that the multi-stage, holistic design approach adopted for the Scheme. The approach integrates integrated technical requirements, environmental considerations, and the value of community and stakeholder engagement. It responds to the need for a coordinated and landscape-led Scheme that is sensitive to its surroundings, deliverable within the identified Order Limits, and capable of long-term adaptation and resilience.

4.1.2. The following sections describe the Design Vision and core Design Principles, and how these relate to the wider national expectations, including the National Infrastructure Commission (NIC) principles of good design.

4.2. Response to the National Infrastructure Commission (NIC) Principles

4.2.1. Although the DAD does not adopt the NIC's four principles verbatim, the Scheme has been developed in a manner fully aligned with the NIC's design framework of Climate, People, Places and Value. The Meridian design approach responds to each:

- **Climate** – The Scheme's purpose is to generate and deliver 750MW of renewable energy while embedding resilience, sustainable land management, and water-sensitive design. These outcomes directly support the NIC's climate objective.
- **People** – The Scheme has been shaped through meaningful engagement with communities, landowners and stakeholders. Protection of residential amenity, creation of new recreational routes, and sensitive alignment of infrastructure reflect the NIC's emphasis on human-focussed design.
- **Places** – The design seeks to integrate sensitively within the fenland landscape, responding to local character, settlement structure, field boundaries, drainage patterns, and heritage features. This reflects the NIC's goal of creating schemes that enhance and respect place.
- **Value** – The design principles promote efficient land use, long-term habitat creation, agricultural coexistence, and a coordinated landscape structure, delivering environmental, social and economic value over the life of the Scheme.

4.2.2. Where the NIC principles provide the national context, the project-specific Design Principles translate them into tailored, site-specific rules that practically guide decision-making.

4.3. Design Vision

4.3.1. Since inception, the design vision for the Scheme has driven the evolution of the Scheme:

> *'Meridian Solar Farm will generate and deliver 750MW of renewable energy to the National Grid whilst being sensitive to its surroundings. The project will conduct meaningful engagement with communities and stakeholders to ensure it would be sited to take account of the local environment and the amenity of people and communities. The project will identify and incorporate opportunities to embed resilience and sustainability into the design whilst respecting cultural heritage, enhancing biodiversity and exploring the potential to enhance recreational access across the site'.*

4.3.2. The vision for the Scheme establishes not only the ambition to generate renewable energy sensitively, but also the framework through which the Scheme achieves sustainability, creates a coherent place and landscape, and integrates the many technical and environmental components into a single, unified design. The vision directly informs decisions across the Solar Development Area, Inter-Array Connections and Grid Connection Route, ensuring that these elements work together holistically rather than as isolated infrastructure.

4.3.3. By prioritising environmental sensitivity, biodiversity enhancement and respect for heritage, the vision ensures that the Scheme delivers long-term environmental sustainability, supported by extensive habitat management areas, species-rich grassland creation, and landscape corridors that improve ecological connectivity. The vision also underpins the creation of a new, legible and multifunctional landscape, where energy generation sits alongside enhanced access, new recreational routes, and long-term land management improvements.

4.3.4. Through consistent application of the Design Principles, the vision holds the design together – shaping how infrastructure is sited, how heights are refined, how buffers are provided around sensitive receptors, how access arrangements are rationalised, and how planting and habitat management areas are integrated across all parcels. This ensures that the Scheme functions as one coordinated place, with a strong landscape structure that supports biodiversity, maintains fenland character, and embeds the resilience to climate change and flood risk.

4.4. Design Principles

4.4.1. The Design Principles reflect the key considerations guiding design development:

- **Principle 1**
    - Deliver a technically compliant Scheme that is safe, secure, efficient and maximises the ambition to deliver clean, green energy to the National Grid

- **Principle 2**
  - Seek to integrate the Scheme sensitively within the landscape to reduce the potential landscape and visual effects where practical
- **Principle 3**
  - Seek to incorporate opportunities to enhance local recreation and access
- **Principle 4**
  - Ensure responsible construction, ongoing maintenance and decommissioning
- **Principle 5**
  - Respect the history of the site and seek to protect cultural heritage features
- **Principle 6**
  - Minimise effects on agricultural productivity and safeguard long-term agricultural capability of the land.
- **Principle 7**
  - Manage water, improve quality, reduce pollution
- **Principle 8**
  - Design the Scheme to align with existing field boundaries and existing landscape features and vegetation
- **Principle 9**
  - Seek to avoid potential impacts on biodiversity and provide enhancement through the provision of habitat mitigation and enhancement areas to achieve a minimum of 10% Biodiversity Net Gain
- **Principle 10**
  - Design the Scheme sensitively to ensure compatibility with other proposed developments in the area.

5. Design Flexibility

5.1.1. The Scheme has been designed in accordance with the Rochdale Envelope approach, allowing appropriate flexibility within clearly defined design parameters. This flexibility is required to ensure the Scheme can respond to detailed design, procurement, ground conditions and ongoing engagement with stakeholders, utilities and landowners, while remaining within the environmental envelope assessed in the EIA.

5.1.2. The design flexibility described above is controlled and secured through the **Draft DCO** (Doc Ref. 3.1) and the suit of control documents submitted with the DCO application, including the **Works Plans** (Doc Ref. 2.3), **Design Parameters** (Doc Ref. 7.4), and the Requirements set out in Schedule 2 of the Draft DCO. Further detail on how good design outcomes are secured through these mechanisms is provided in **Section 8** of this DAD.

5.1.3. Flexibility has been incorporated in several areas:

- Design parameters: Maximum heights, footprints and limits of deviation for all above-ground structures – including solar PV modules, solar stations, on-site substations, BESS compound, underground cabling, OHL pylons and CSEC compounds – have been defined to ensure that the final design can evolve while remaining within the assessed parameters.
- Solar Development Area layout: The exact siting and spacing of solar PV arrays, internal access tracks, and associated infrastructure will be determined at detailed design, guided by the embedded mitigation, flood-risk constraints, buffers to sensitive receptors, and the landscape and ecological framework.
- Inter-Array Connections: Flexibility is retained for the exact alignment of the 132kV connections, within defined corridor widths.
- Grid Connection Route: Flexibility is maintained in the alignment and span lengths of the 400kV OHL, as well as for minor deviations in pylon siting, to ensure the final design appropriately responds to ground conditions, utility interfaces and detailed engineering requirements.
- Grid Connection Route Crossings of Existing OHLs: Flexibility has been maintained for the Grid Connection OHL to either oversail the existing third party OHL assets or for the existing third party OHL assets to be undergrounded. This is with the exception of the crossing with the existing 132kV OHL, where the Grid Connection Route would be undergrounded. If the existing OHL assets are undergrounded, trenched or trenchless crossing methods may be used, with indicative parameters defined and assessed in the ES.

- Grid Connection Route Area of Flexibility within Work No 14: Flexibility has been maintained within the area of Work No 14 of the Grid Connection Route, where the Grid Connection may be overhead or underground, depending on the final design coordination with NGET's G2W and Weston Marsh to East Leicestershire (WMEL) projects. This area also incorporates flexibility for the Grid Connection Route to either be aligned east or west of Wool Hall Farm. If undergrounded, trenched or trenchless crossing methods may be used, with indicative parameters defined and assessed in the ES.
- Order Limits: The Order Limits have been drawn to include all land required for construction, operation, and decommissioning, including temporary working areas, construction access, and land for landscape planting and habitat management. This approach ensures that flexibility is maintained while keeping all activities within the environmental envelope assessed in the ES.
- Access Track Crossings with Watercourses: Flexibility has been maintained within the design for construction and operational access track crossings to be either culvert or bridge crossings, subject to detailed design. For a worst-case assessment within the ES, the use of culverts has been assumed, with the exception of the crossings with the South Holland Main Drain where the access crossings would require upgrades to existing bridge structures (or a new bridge).

5.1.4. This structured approach to flexibility ensures that the Scheme can be delivered effectively and responsively, while guaranteeing that the environmental effects will not exceed those assessed.

6. Design Evolution

6.1. Introduction

6.1.1. The design of the Scheme has been an iterative process responding to technical engineering challenges, environmental surveys, and consultation feedback. Good design requires a holistic approach with input from all disciplines to result in an integrated solution for the application.

6.1.2. The decision-making process that was adopted involved input from multiple teams and stakeholders. This section of the DAD explains how the Scheme has evolved through each iteration of the design, following the initial site selection of the Solar Development Area, and how this responds to the project Vision and Design Principles.

6.2. Design Stage 1 - Non-Statutory Consultation (2024)

6.2.1. Having identified the constraints and opportunities above, the first design iteration was presented at the Stage 1 (non-statutory) Consultation in 2024. The below sections provide a description of the information that was presented at this stage to enable stakeholders and the community to provide feedback and input into the design process.

Solar Development Area

6.2.2. This stage of the project identified the initial extent of the Solar Development Area (see Figure 6-1) that would be available to the Scheme to deliver the following elements of the eventual design:

- Solar panels and related infrastructure;
- Space to incorporate appropriate buffers around sensitive features of the landscape;
- Environmental mitigation and enhancement areas; and
- Recreational opportunities.

Figure 6-1 Proposed Solar Development Area presented as part of the Stage 1 Consultation

6.2.3. In order for the project to effectively seek feedback to inform design research, the project did not present a proposed design for the Solar Development Area at this stage. This reflected that the project team were consulting at a formative stage of the development of the Scheme, with design to be led in the first instance by stakeholders and the communities, rather than having been already established before the Stage 1 Consultation.

6.2.4. To enable stakeholders and the community to provide informed feedback, a series of plans were prepared to support the consultation that highlighted the key constraints in the area that the project team had already identified as being likely to influence design, alongside the community input.

6.2.5. These plans provided information on the following:

- Environmental designations (see Figure 6-2)
- Heritage designations (see Figure 6-3)
- Hydrology designations and the water environment (see Figure 6-4)
- Opportunities for transport and access (see Figure 6-5)

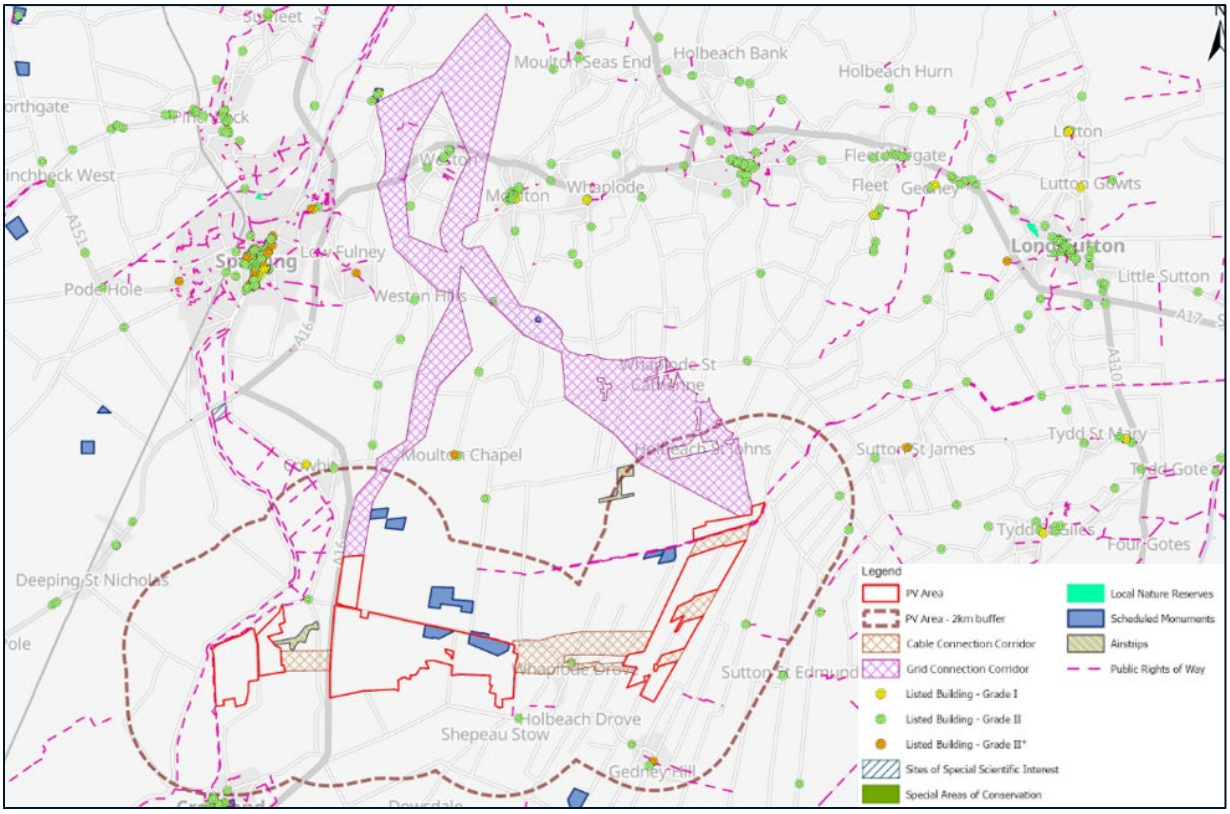


Figure 6-2 Environmental constraints presented as part of the Stage 1 Consultation

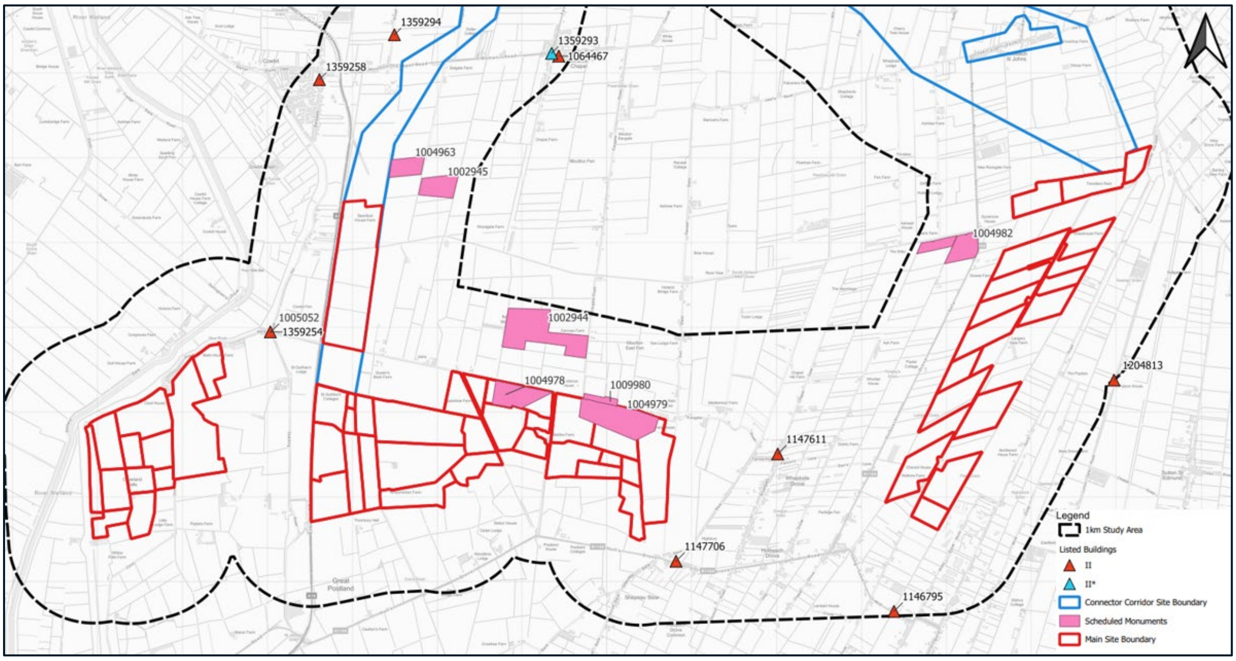


Figure 6-3 Heritage constraints presented as part of the Stage 1 Consultation

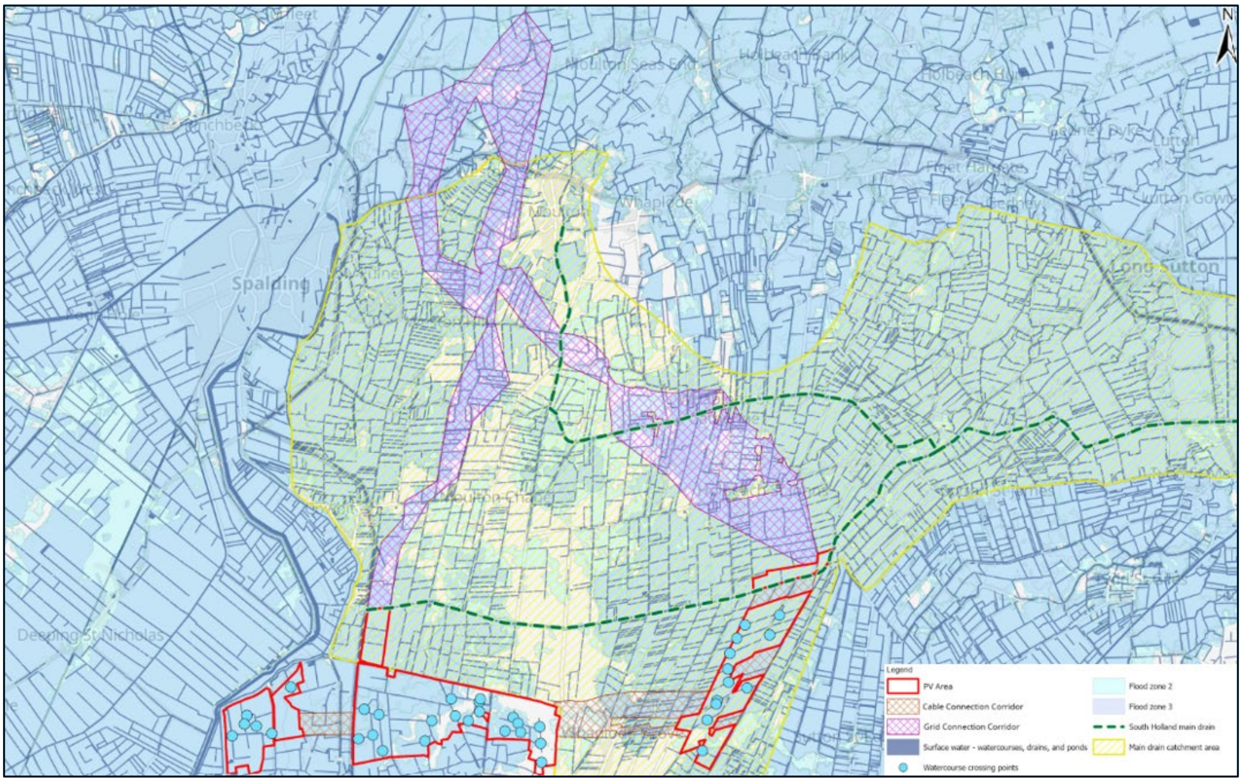


Figure 6-4 Hydrology and water environment presented as part of the Stage 1 Consultation

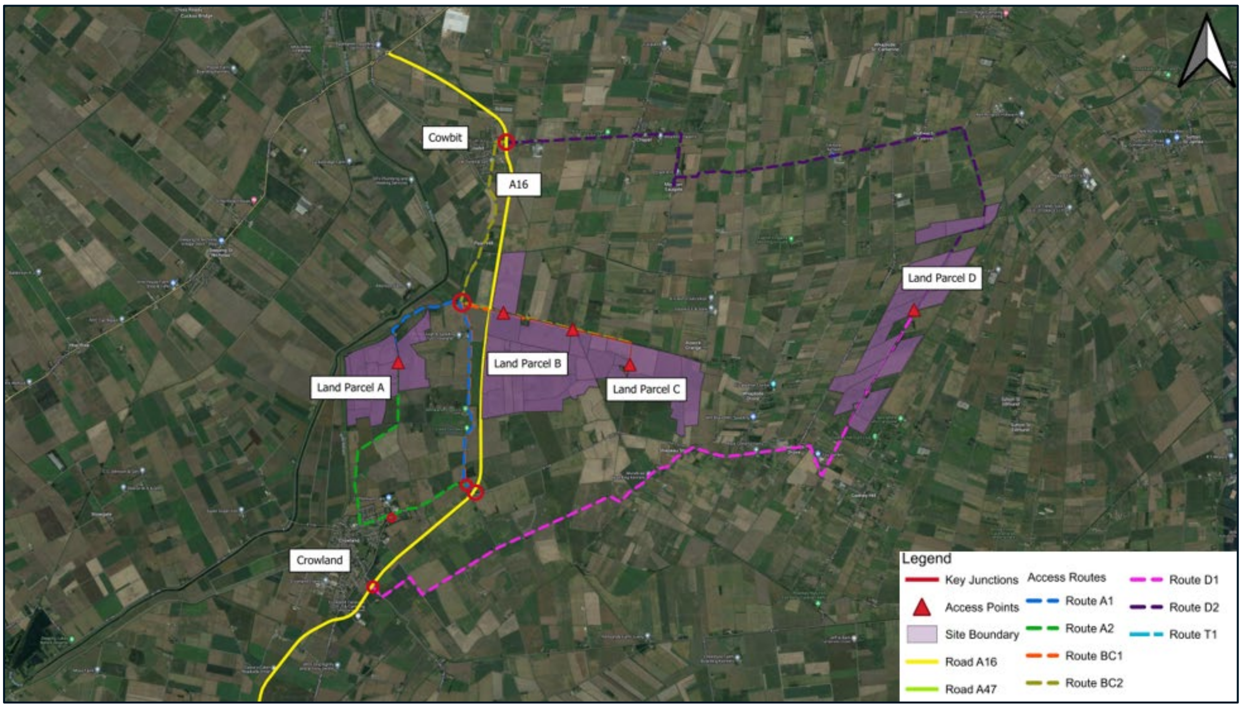


Figure 6-5 Opportunities for transport and access presented as part of the Stage 1 Consultation

Inter Array Connections

6.2.6. As the Solar Development Areas are divided into a number of land parcels, these require connection via either OHLs or underground cable across the land which is now defined within the Scheme as the Inter-Array Connections.

6.2.7. During the Stage 1 Consultation, options for these connections were identified to enable stakeholders and members of the community to provide feedback. At that stage, the Inter-Array Connections were referred to as "Cable Connection Corridors".

6.2.8. Between land parcels A and B, there was limited scope for the consideration of alternative routing options for the Inter-Array Connection, as the land parcels are geographically close (approximately 1km) on either side of the A16.

6.2.9. Two options were presented during the Stage 1 Consultation for the Inter-Array Connection between land parcels C and D: a northern and a southern route. The northern route was identified as a potential to route the connection in the fields to the north of the settlement of Whaplode Drove. The southern connection option was identified as a potential option to route a cable in the road along Barr's Lane, Parson's Lane and Farrow Road through the settlement of Whaplode Drove.

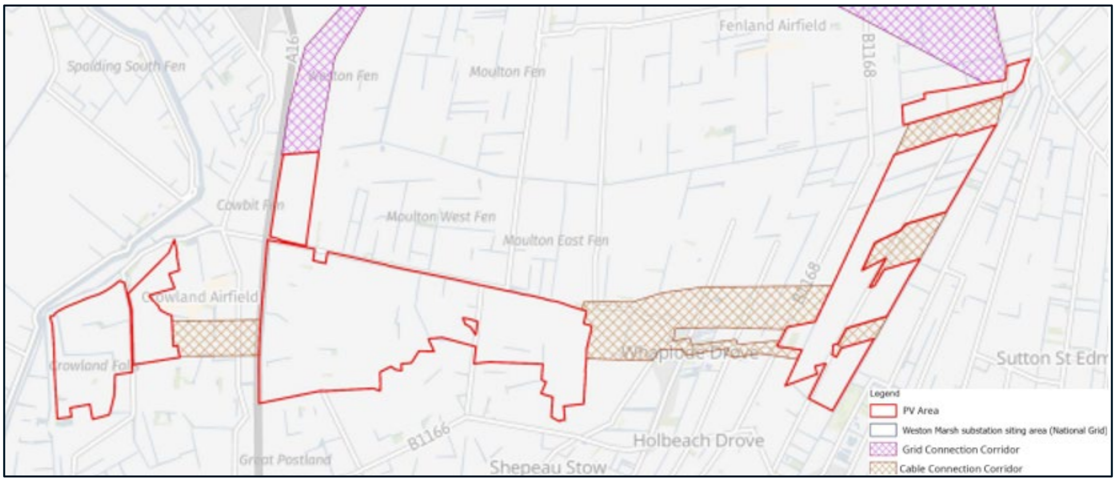


Figure 6-6 Inter-Array Connection options presented as part of the Stage 1 Consultation

Grid Connection Corridor Options

6.2.10. A process was undertaken to identify potential Grid Connection Corridor route options within which the Grid Connection could be developed. A starting presumption of the Grid Connection design was that it would be delivered via an OHL. This reflects national policy set out in NPS EN-5, which confirms that "*overhead lines should be the strong starting presumption for electricity network developments in general*" (EN-5, paragraph 2.9.20). This policy position recognises overhead lines as the preferred technology for electricity transmission infrastructure on the basis of technical feasibility and cost effectiveness, particularly for long-distance connections such as that required for the Scheme.

6.2.11. In accordance with EN-5 paragraph 2.9.20, this starting presumption is reversed only where proposed developments would cross part of a nationally designated landscape, namely a National Park, The Broads, or an Area of Outstanding Natural Beauty (now referred to as National Landscapes). At this stage of project development, it was therefore acknowledged that discrete sections of the Grid Connection Corridor could be considered for undergrounding should such circumstances arise, or where there was clear and compelling environmental or technical reasons that could not be adequately mitigated through routing or design.

6.2.12. The initial routing options at Stage 1 removed land the design team considered would be unfeasible, for technical reasons, to route the Grid Connection. This largely correlated with the land in direct conflict with or immediately adjacent to existing built-up areas including Moulton Chapel, Cowbit, Moulton and Weston.

6.2.13. **ES Chapter 3 Alternatives and Design Evolution** (Doc Ref. 6.1) outlines the process undertaken to identify and appraise the multiple corridor options that were considered feasible for the Grid Connection Route.

6.2.14. Through the appraisal process, refinements to the corridors were undertaken to seek increased distances from residential areas and to reduce the potential for environmental effects.

6.2.15. As well as the suitability of the options for the development of an OHL, a key determining factor for the selection of potential options was the consideration of a suitable site for the development of the 400kV substation as part of the Solar Development Area.

6.2.16. Following the appraisal of the options, two northern and two southern corridor options were presented at the Stage 1 Consultation and feedback was sought on them.

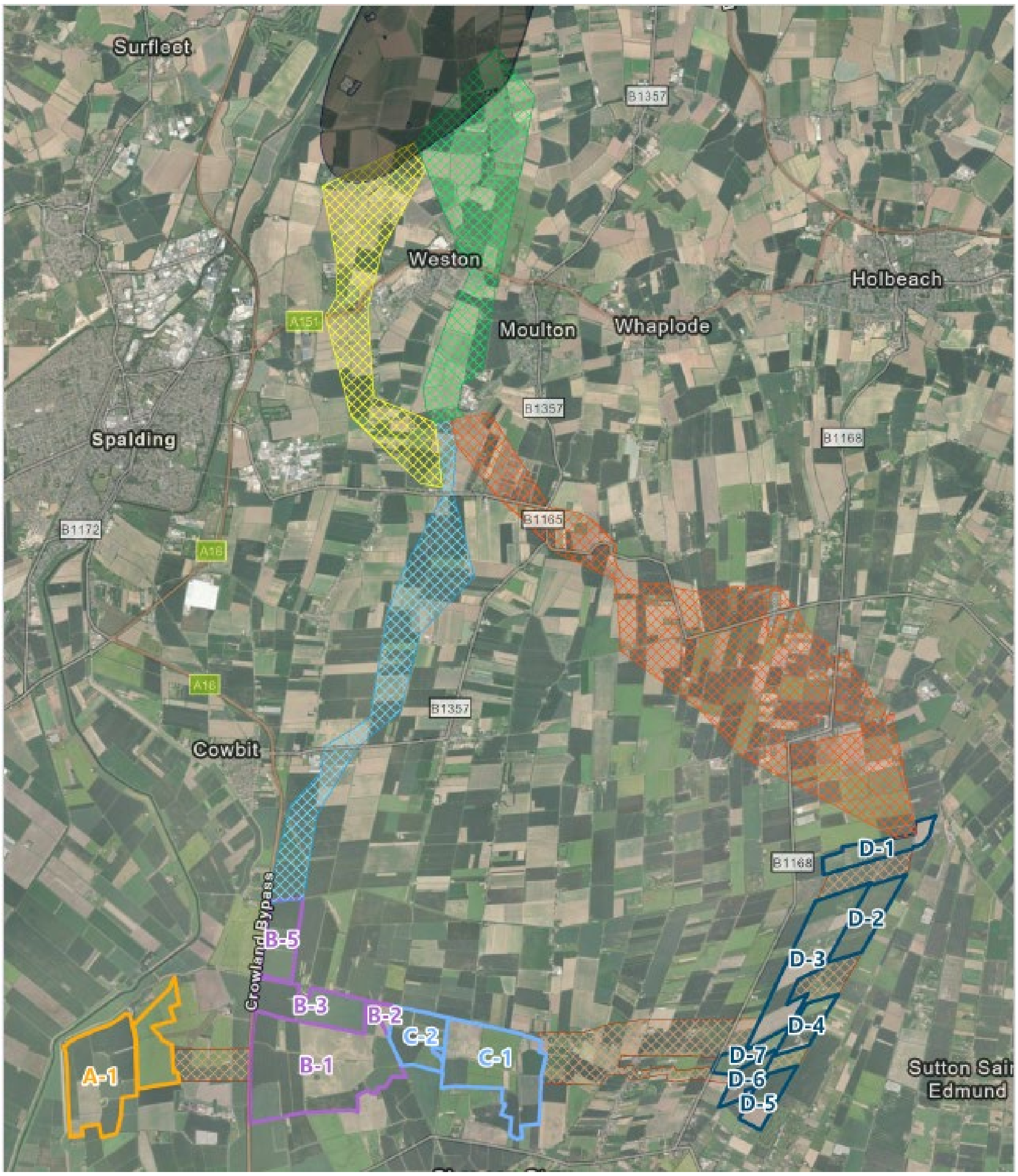


Figure 6-7 Grid Connection Route options presented as part of the Stage 1 Consultation

6.3. Design Stage 2 – Statutory Consultation (2025)

6.3.1. Following the conclusion of the Stage 1 Consultation, the feedback received was reviewed and considered alongside technical work and the ongoing survey work being undertaken to inform the design process. As a result, the initial design that was presented at the Stage 2 Consultation incorporated the following changes as set out in the paragraphs below, together with the relevant Design Principle that informed the change:

Solar Development Area – Land Parcel A

6.3.2. The following key changes were made to the design of the Solar Development Area Parcel A for Design Stage 2:

- Avoiding siting infrastructure in Parcel A to the west of the Peterborough and Spalding Gliding club in order to reduce potential effects on their operations (Principle 4).
- Inclusion of indicative planting to reduce landscape and visual effects and improve biodiversity (Principle 9).
- Identification of a location for a 132kV substation in the easternmost extent of Parcel A to facilitate the Inter Array Connection between Parcels A and B (Principle 1).
- Introduction of a maximum height above ground level for solar infrastructure (5.7m), prior to completion of detailed flood modelling (Principle 7).

Solar Development Area – Parcel B

6.3.3. The following section summarises the key changes made to the design of the Solar Development Area Parcel B for Design Stage 2:

- Avoiding siting infrastructure in the northern section of Parcel B south of Queen's Bank to reduce effects on nearby properties (Principle 4)
- Confirmation of the 400kV substation location at the northernmost extent of Parcel B to facilitate the grid connection, following the selection of the western grid connection corridor option (Principle 1)
- Identification of a potential 132kV substation location to facilitate the Inter Array Connection into Parcel D (Principle 1)
- Indicative planting to reduce landscape and visual effects and support biodiversity and BNG (Principle 9)
- Infrastructure not proposed in the central section of Parcel B due to initial ALC findings indicating potential Grade 1 land (Principle 6)
- Introduction of a maximum height above ground level for solar infrastructure (5.2m), prior to completion of detailed flood modelling (Principle 7)

Solar Development Area – Parcel C

6.3.4. The following section summarises the key changes made to the design of the Solar Development Area Parcel C for Design Stage 2:

- No infrastructure on or near Scheduled Monuments with buffers to avoid direct impacts (Principle 5)
- Indicative planting to reduce landscape and visual effects and support biodiversity and BNG (Principle 9)

- Avoiding siting infrastructure within the fields to the north and south of the properties at Martins Road (Principle 4)
- No infrastructure proposed in eastern Parcel C due to the initial ALC results indicating potential Grade 1 Agricultural Land (Principle 6)
- Introduction of a maximum height above ground level solar infrastructure (5.2m), prior to completion of detailed flood modelling (Principle 7)

Solar Development Area – Parcel D

6.3.5. The following section summarises the key changes made to the design of the Solar Development Area Parcel D for Design Stage 2:

- Maximising proposed solar infrastructure in Parcel D to realise generation potential where constraints are lower (Principle 1)
- Identification of two options for 132kV substations to enable Inter Array Connections (Principle 1)
- Indicative planting to reduce landscape and visual effects and support biodiversity and BNG (Principle 9)
- Introduction of a maximum height above ground level (5.2m), prior to completion of detailed flood modelling (Principle 7)

6.3.6. The design of the Solar Development Area for Stage 2 Consultation was refined iteratively, accounting for environmental and technical considerations while incorporating feedback from statutory and non-statutory consultees, including the local community and relevant authorities.

6.3.7. Feedback was sought on the proposals for the initial design through consultation that was undertaken between April and June 2025. The proposals and consultation were supported by a Preliminary Environmental Information Report and other materials in order for consultees to provide meaningful feedback on the proposed design for the Solar Development Area at this stage.

Figure 6-8 Overview of proposals for the Solar Development Area presented as part of the Stage 2 Consultation

Inter Array Connections

6.3.8. The following section summarises the key changes made to the design of the Inter Array Connections for Design Stage 2:

- Refined boundaries of the Inter Array Connections to increase the distance from residential properties (Principle 4)

6.3.9. For the Stage 2 Consultation, the Inter-Array corridors were refined to ensure residential properties and associated curtilage were excluded from the indicative area from which the Inter-Array Connection would be selected. This included consideration of the Holford Rules, in the refined alignment of the connections. For reference to the considerations applied under the rules to the Inter-Array Connections, please refer to Appendix B of this document.

6.3.10. Flexibility was included at this stage to continue to account for the potential design of the Inter-Array Connections being an OHL solution (up to 132kV), underground cables, or a combination of both. The Inter Array Connection between Parcels C and D continued to include two potential route options. At this stage, it was made clear that the southern route would only be considered suitable as an underground cable, as it followed Farrow Road, Parsons Lane and Barr’s Lane to the B1168 Holbeach Drove Gate through the settlement of Whaplode Drove.

Grid Connection Corridor

6.3.11. The following section summarises the key changes made to the design of the Grid Connection Route for Design Stage 2.

6.3.12. Following the receipt of stakeholder feedback, and taking into account the findings of technical and environmental assessments, an appraisal of the Grid Connection Corridor presented during the Stage 1 Consultation was undertaken to identify a preferred corridor that best balances environmental constraints, engineering feasibility, land availability and deliverability considerations.

6.3.13. North-east, north-west, south-east, and south-west corridor options meant that the following four configurations were available for the selection of a preferred option:

- North-east corridor and south-east corridor;
- North-east corridor and south-west corridor;
- North-west corridor and south-east corridor; and
- North-west corridor and south-west corridor.

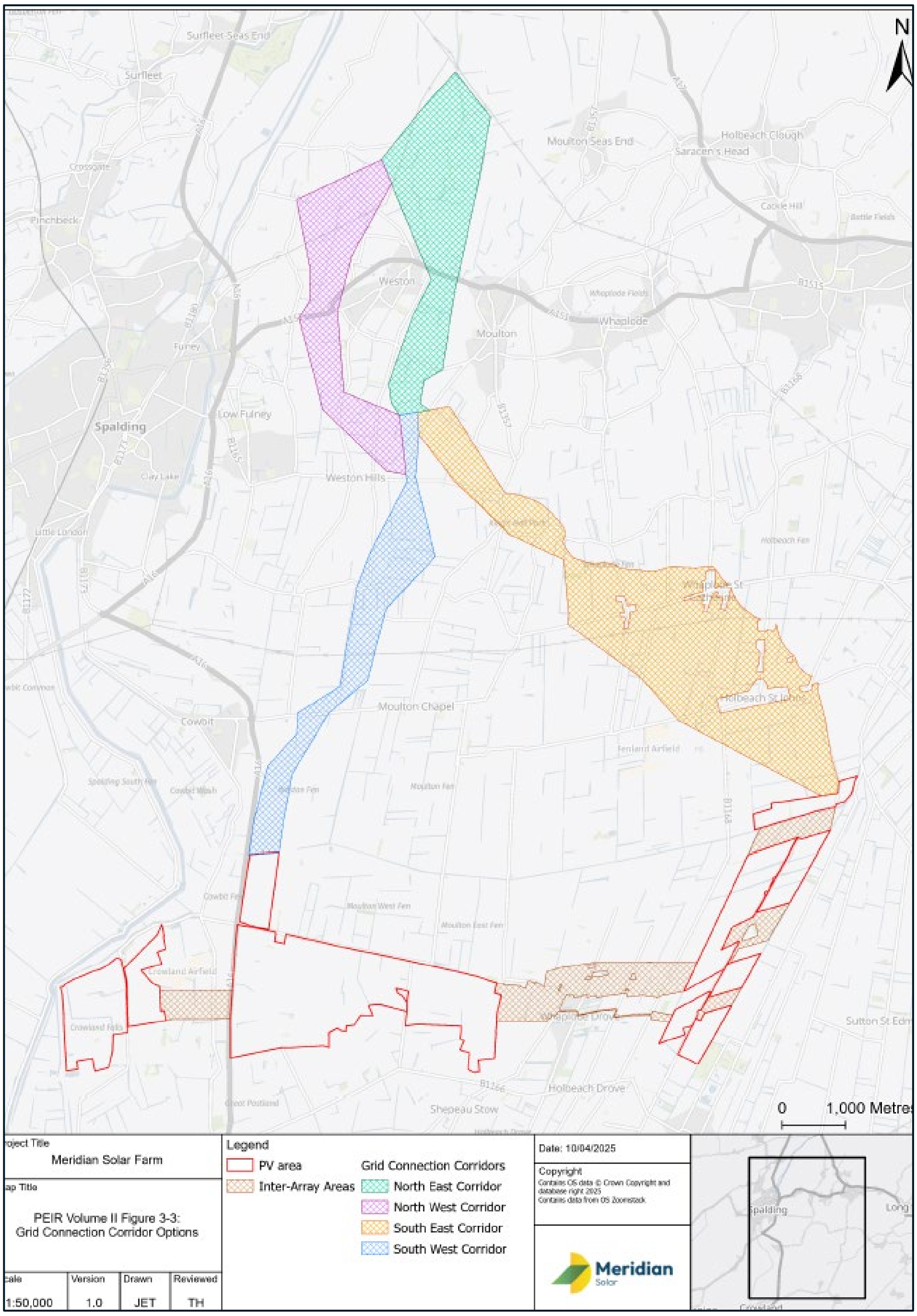


Figure 6-9 Grid Connection Corridor options presented as part of the Stage 2 Consultation

6.3.14. For the south-west corridor, an On-Site 400kV Substation would need to be constructed within Parcel B-5. For the south-east corridor, an On-Site 400kV Substation would need to be constructed within Parcel D-1. These were considered to be the only two potential options for siting the On-Site 400kV Substation without resulting in direct impacts on the Scheduled Monuments within the Solar Development Area.

6.3.15. The following tables summarise the constraints and opportunities associated with each configuration.

Table 6-1: Grid Connection Northern Corridor Selection

North-West Corridor	North-East Corridor
Air Quality - No determining factors, neither route would go through an Air Quality Management Area (AQMA).	
Agriculture and Soils - No determining factors in relation to agricultural land as both routes are within Grade 1 ALC according to the provisional mapping.	
Ecology and Nature Conservation	
A series of priority habitat areas were identified within the north-west corridor. Careful micro-siting would enable these habitats to be avoided, where practicable. Whilst there are no ponds within the corridor and no Great Crested Newt records, there are two ponds within 300m of the route. Desk study showed relatively few bird records within the immediate route corridor area. There are no material differences between the two corridors in terms of reptile, roosting and foraging bats, and badger.	A series of priority habitat areas were identified within the north-east corridor. Careful micro-siting would enable these habitats to be avoided, where practicable. Whilst there are no ponds within the corridor and no Great Crested Newt records, there are five ponds close to the boundary. Desk study identified aggregations of bird records within and adjacent to the route. There are no material differences between the two corridors in terms of reptile, roosting and foraging bats, and badger.
Historic Environment	
Numerous listed buildings identified where corridor passes Weston. Borders a Scheduled Monument.	Numerous listed buildings identified where corridor passes Weston. Closer to Moulton Conservation Area.
Land Contamination - Neither option is likely to result in significant effects with regards to land contamination with the adoption of good practice construction environmental management measures.	

North-West Corridor	North-East Corridor
Landscape and Visual Amenity	
Shorter route length and greater separation from residential receptors at Moulton reduce potential visual impacts. Alignment with the proposed Grimsby–Walpole OHL also helps to minimise additional visual intrusion in line with the Holford Rules, making this option preferable on landscape and visual grounds.	Longer route length and closer proximity to residential receptors at Moulton increase the potential for landscape and visual impacts, making this option less favourable on visual amenity grounds.
Noise and Vibration	
Shorter route length and greater separation distance from residential properties make this option preferable from noise and vibration perspective.	Longer route length and closer proximity to residential properties at Moulton increase the potential for noise and vibration effects.
Traffic and Transport - No determining factors in relation to access due to close proximity to the strategic road network and availability of two-way roads.	
Water Environment - No determining factors in relation to water as both routes are within Flood Zone 3 and would require crossing a large number of drains and ditches.	

Table 6-2: Grid Connection Southern Corridor Selection

Parcel B-5 and South-West Corridor	Parcel D-1 and South-East Corridor
Air Quality - No determining factors, neither route would go through an Air Quality Management Area (AQMA).	
Agriculture and Soils	
Parcel B-5 was identified to comprise ALC Grade 2 and 3a land on the basis of a reconnaissance survey. Following detailed ALC survey, the ALC classification was revised to ALC Grade 1 and 3a. On the basis of the provisional ALC mapping, the rest of the south-west corridor comprises ALC Grade 2 land.	Parcel D-1 was identified to comprise ALC Grade 3a and 3b land on the basis of a reconnaissance survey and subsequent detailed ALC survey. On the basis of the provisional ALC mapping, the rest of the south-east corridor comprises ALC Grade 2 land.
Ecology and Nature Conservation - No clear preference in relation to ecology for neither of the options.	
Historic Environment	
Parcel B-5 was identified to have a high potential for below ground archaeology. No clear preference in relation to the rest of the Grid Connection corridor.	Parcel D-1 has known and medium potential for archaeology. No clear preference in relation to the rest of the Grid Connection corridor.
Land contamination	
No likely significant effects with regards to land contamination with the adoption of good practice construction environmental management measures.	No likely significant effects with regards to land contamination with the adoption of good practice construction environmental management measures. However, a medium to high risk of unexploded ordnance was identified, due to anecdotal evidence of World War II German bombers jettisoning their loads upon departure from the UK over this area of land.
Landscape and Visual Amenity	
Parcel B-5 and the south-west corridor were preferred in relation to the relative impact on landscape and visual amenity	Parcel D-1 and the south-east corridor performed relatively poorly in this respect coming in close proximity to the villages of

Parcel B-5 and South-West Corridor	Parcel D-1 and South-East Corridor
due to a smaller number of residential properties having been identified within or near to the corridor.	Holbeach St Johns and Whaplode St Catherine. As a result, a preference for the south-west corridor was identified.
Noise and Vibration	
Parcel B-5 and south-west corridor are located further from residential receptors, and as such, this option was considered to reduce potential for noise and vibration effects.	Parcel D-1 and the south-east corridor are located closer to residential receptors, and as such, this option was considered to result in greater potential for noise and vibration effects.
Traffic and Transport	
Parcel B-5 and south-west corridor would allow access from the local highway network primarily via the A16 but also via Queen's Bank, which are sufficient to accommodate the delivery of Abnormal Indivisible Loads (AILs), including transformer components for a 400kV Substation, on the basis of vehicle tracking.	Parcel D-1 and south-east corridor face significant constraints with regards to accessibility. Access to Parcel D is limited by the existing local highway network, which consists of narrow roads. Substantial highway upgrades would likely be required to accommodate the delivery of AILs for the transformer components of a 400kV Substation.
Water Environment	
Parcel B-5 and the south-west corridor fall within the extent of Flood Zones 2 and 3 for fluvial flood risk in an undefended scenario, in accordance with the Environment Agency's flood map for planning. However, the area benefits from flood defences up to the 1 in 1,000 year event plus climate change with a low residual risk from a breach of the River Welland. In addition, detailed flood modelling has demonstrated that Parcel B-5 does not fall within the extents of Flood Zones 3a or 3b associated with the South Holland Main Drain.	Parcel D-1 and the south-east corridor fall within the extent of Flood Zones 2 and 3 for fluvial flood risk in an undefended scenario, in accordance with the Environment Agency's flood map for planning. In addition, detailed flood modelling has demonstrated that the entire Parcel D-1 falls within Flood Zone 3b associated with the South Holland Main Drain. In line with the sequential approach, all critical infrastructure should remain operational during extreme weather and be located outside of Flood Zone 3.

6.3.16. As a result of the options appraisal, the north-west corridor and south-west corridor were combined to form a single preferred corridor, with Parcel B-5 identified as the only technically feasible and policy-compliant location for the 400kV substation when compared with Parcel D-1, which was discounted due to Flood Zone 3b designation, significant access constraints for transformer delivery, and elevated UXO risk.

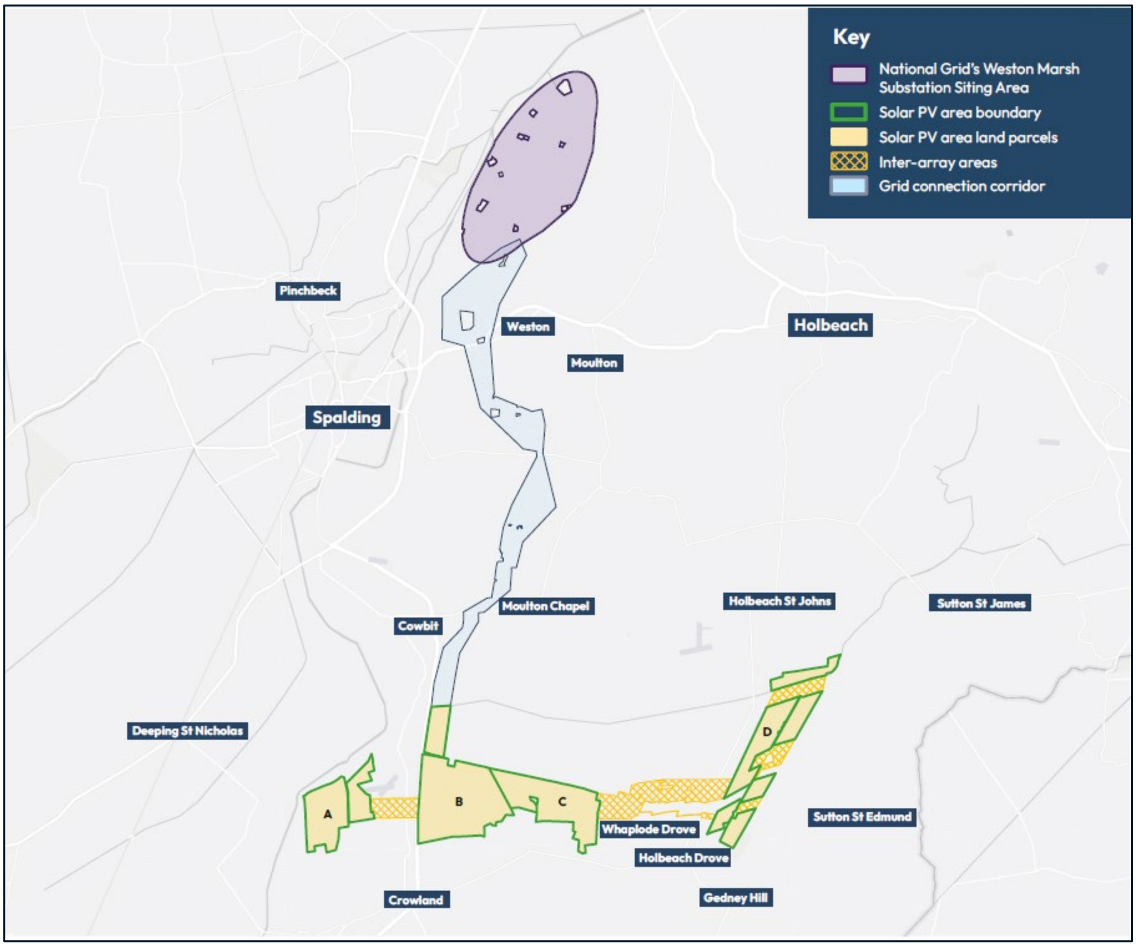


Figure 6-10 Grid Connection Corridor presented as part of the Stage 2 Consultation

Indicative Alignment

6.3.17. To support the Stage 2 Consultation, an indicative alignment was developed within the preferred corridor to enable stakeholders and members of the community to provide detailed and meaningful feedback on the proposed route of the OHL.

6.3.18. The indicative alignment and pylons were designed in accordance with Holford Rule 3, routing as straight as possible with the inclusion of as few angles and changes in direction as practical as these involve the construction of bulkier, more substantial pylons.

6.3.19. The routing approach sought to ensure that the indicative alignment was located as far away from residential receptors and large settlements as practicable. Pylons were located sensitively in an attempt to: avoid vegetation loss, retain hedgerows, have stand-off from field drains and to reduce the potential impact on agricultural practices.

6.3.20. The indicative alignment was routed directly north out of the proposed 400kV substation at Solar Development Area Parcel B before deviating northeast across agricultural land. The draft alignment routes away from the settlement of Cowbit and passes equidistant between residential receptors on Delgate Bank and those north of Moulton Chapel Road to the east of the alignment.

6.3.21. A crossing of the National Grid Electricity Distribution (NGED) existing 132kV OHL would be required, east of Delgate Bank. At the Stage 2 Consultation, this crossing was identified but the technology choice for the crossing was not yet determined. The crossing was located to the eastern side of the field to ensure the distance away from residential properties would be increased and that the works were located closer to an existing water treatment works in that location.

6.3.22. From here, longer, straighter sections were designed to align with the Holford Rules, maximising stand-off from residential properties and field drains whilst avoiding the introduction of additional angles. It was not possible to route northwards over the B1165 on the west of Weston Hills, as the north-south linear settlement, as well as the properties along Broad Gate and Moulton Chapter Road prevented the alignment from returning west for the approach to the Substation connection. At Austendike Road, the alignment deviated northwest to avoid larger concentrations of residential dwellings, as it progressed towards the Weston Marsh Substation siting area.

6.3.23. The alignment routed north, equidistant between Swindler's Drove and Broad Gate to maximise the standoff from residential receptors. The alignment was then routed sensitively between the boundary of Wool Hall Farm and the pumping station, before deviating north.

6.3.24. The alignment then routed northwest into the assumed Weston Marsh substation siting area to keep to the east of the properties in the middle of the corridor. This ensured the infrastructure was located closer to the A-road and industrial area, as opposed to the routing west in more open fields.

Connection corridor and indicative alignment of overhead line – southern section

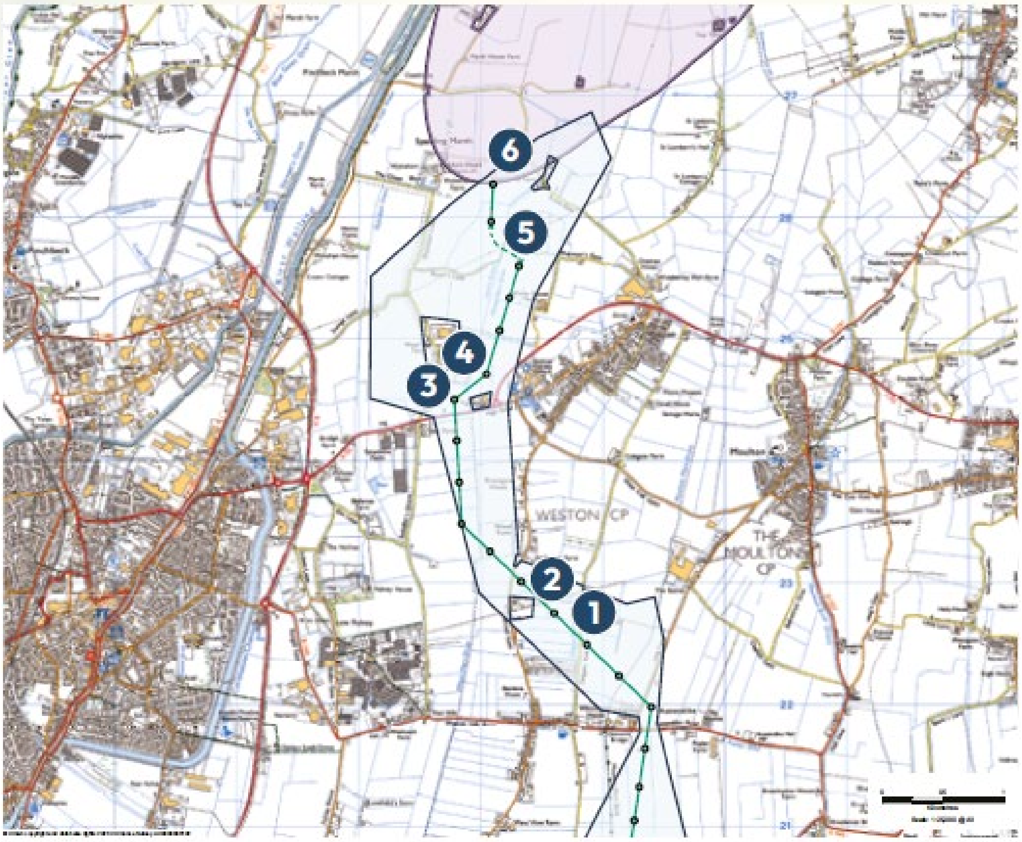
1. The most direct alignment for the overhead line has been identified between the land parcels and Moulton Chapel Road due to few environmental and technical constraints being located in this area.
2. The typical spacing between the pylons could be approximately 293 metres to maintain a distance from a property on Moulton Chapel Road.
3. The indicative alignment aims to allow as much space as possible from the properties to the east of Delgate Bank and West Gate, while maintaining 50 metres from the sewage treatment plant to the east.
4. There is an existing 132 kV overhead line crossing the proposed alignment, which will be discussed with the asset owner to determine the most appropriate crossing design.
5. As much as possible, the indicative alignment has been designed to pass properties at an equal distance on both sides as it crosses Austendike Road.

Key

- Grid connection corridor
- Indicative alignment of overhead line
- Indicative position of electricity pylons
- Solar PV development area
- Indicative location of on-site substation and BESS compounds

Figure 6-11 Grid Connection Route and Indicative Alignment – Southern Section

Connection corridor and indicative alignment of overhead line – northern section



1. The most direct alignment for the overhead lines has been identified in this location, passing an equal distance on both sides between properties and maintaining a distance of 50 metres.
2. In this section, the alignment would cross existing 11 kV and 33 kV overhead lines, as well as Long Lane, Delgate Bank and Broad Gate.
3. The indicative alignment includes a distance of approximately 50 metres separation around the woodland and sewage treatment works, north of High Road.
4. The alignment has been designed to pass an equal distance on both sides between the farm complex to the north, and woodland and a sewage plant to the south.
5. Dependent on the proposed location of the Weston Marsh substation and any associated works in this area, the alignment could be required to cross the existing 400 kV overhead line. The most appropriate design to take forward in this area will be discussed with National Grid as more information becomes available.
6. The indicative alignment finishes at the edge of National Grid's indicative siting area for its proposed Weston Marsh substation because the location is to be identified by National Grid.

Key

- Grid connection corridor
- Indicative alignment of overhead line
- Indicative location to cross the existing 400kV overhead line
- Indicative position of electricity pylons
- National Grid's Weston Marsh substation siting area

Figure 6-12 Grid Connection Route and Indicative Alignment – Southern Section

6.4. Design Stage 3A – Targeted Consultations

6.4.1. Following the Stage 2 Consultation, the Applicant continued to refine the Scheme in response to stakeholder and community feedback and to reflect updated technical information emerging from ongoing engagement with NGET. A number of changes to the draft Order Limits and design refinements required further engagement with affected parties. Two distinct stages of Targeted Consultation were therefore undertaken to provide stakeholders with an opportunity to comment on the evolving proposals.

First Targeted Consultation (September-October 2025)

6.4.2. The first stage of Targeted Consultation ran from September to October 2025. This consultation presented 38 localised changes to the draft Order Limits and associated design refinements following the Stage 2 Consultation.

6.4.3. These refinements sought to reduce environmental effects, clarify the extent of land required temporarily and permanently for construction and operation, and ensure a coordinated design approach with other emerging infrastructure in the area. The changes included adjustments to address strategy, minor realignments within parcels, and refinements to landscaping, mitigation and construction arrangements.

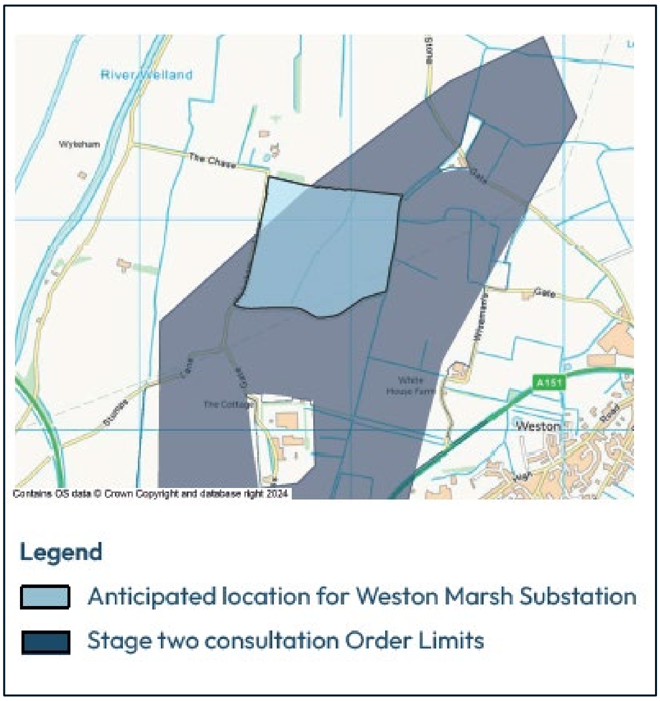


Figure 6-13 Anticipated location of the Weston Marsh B Substation as part of the First Targeted Consultation

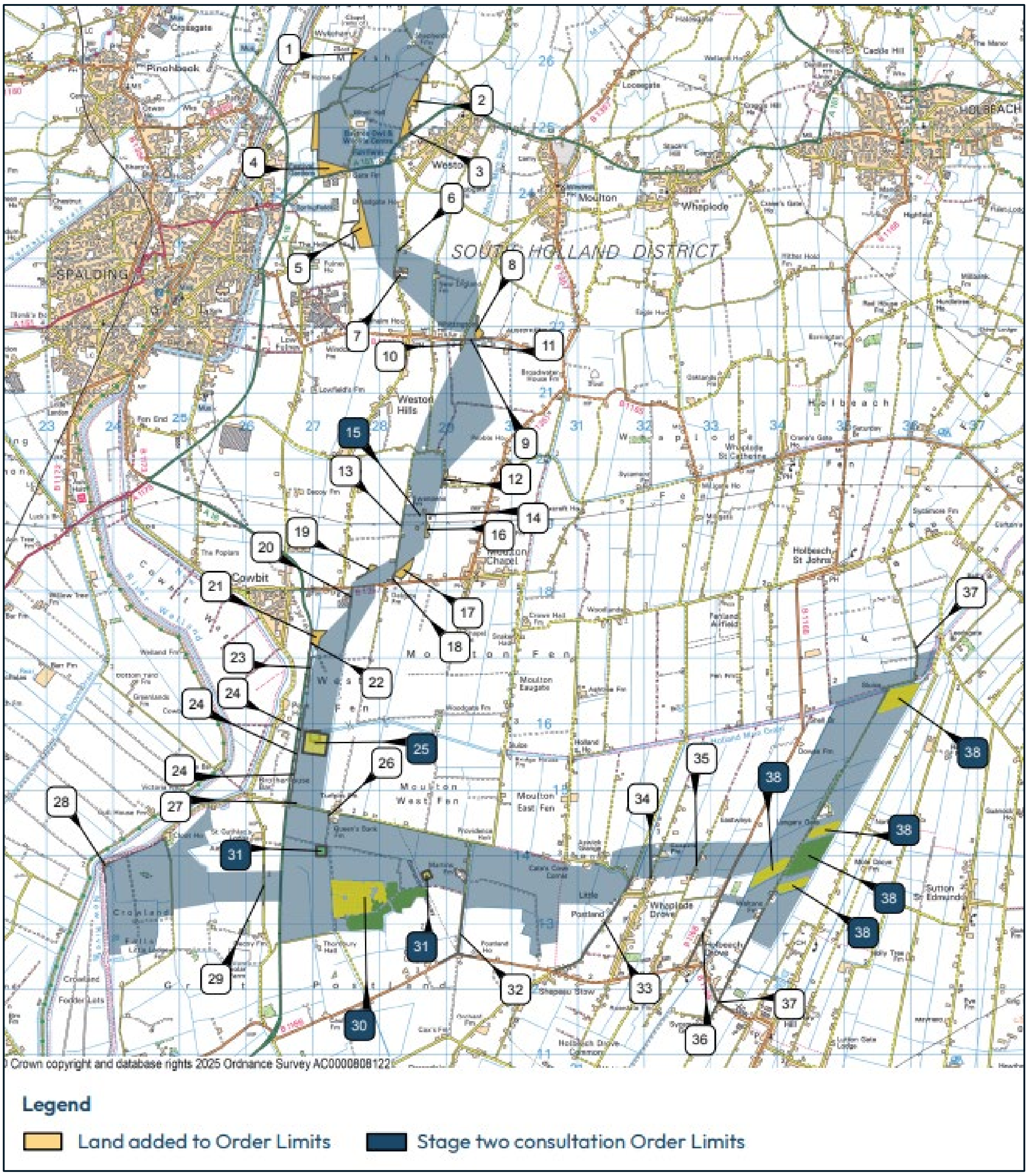


Figure 6-14 Land added to the Order Limits between the Stage Two Consultation and the First Targeted Consultation

6.4.4. All comments received during this first stage were reviewed and fed into ongoing design development and the subsequent round of engagement.

Second Targeted Consultation (January-February 2026)

6.4.5. The second stage of Targeted Consultation took place between 8 January and 5 February 2026. This stage focussed specifically on an extension to the draft Order

Limits to the north of the Site, required to maintain a deliverable and coordinated grid connection into NGET's updated preferred location for the proposed Weston Marsh B substation.

6.4.6. Following the autumn 2025 consultation, continued engagement with NGET identified that their substation design and siting assumptions had progressed, and that the Applicant's previously assumed substation location was no longer consistent with NGET's emerging proposals. NGET advised the Applicant of this change in late October 2025, confirming that the grid connection corridor (GCC) presented at Stage 2 and during the first Targeted Consultation could no longer connect feasibly into the refined substation locations.

6.4.7. NGET's published this change via their G2W transmission proposals – to include the updated substation locations as well as updates to their G2W corridors for their own consultation process in November 2025. This consultation confirmed G2W would now be delivering two Weston Marsh Substations – A and B. This further clarified the changes and the need for Meridian to avoid conflicts with this national infrastructure and align its connection point accordingly.

6.4.8. In response, the Applicant undertook a technical review of connection options, identifying that a northern extension to the Order Limits was required to secure a viable, coordinated connection arrangement to the closest of the two Weston Marsh substations now proposed – Weston Marsh Substation B. The Applicant therefore undertook a second stage of Targeted Consultation and notified affected landowners, explaining the need for the additional land, how NGET's updated information had informed the revised design, and inviting comment on the proposed extension.

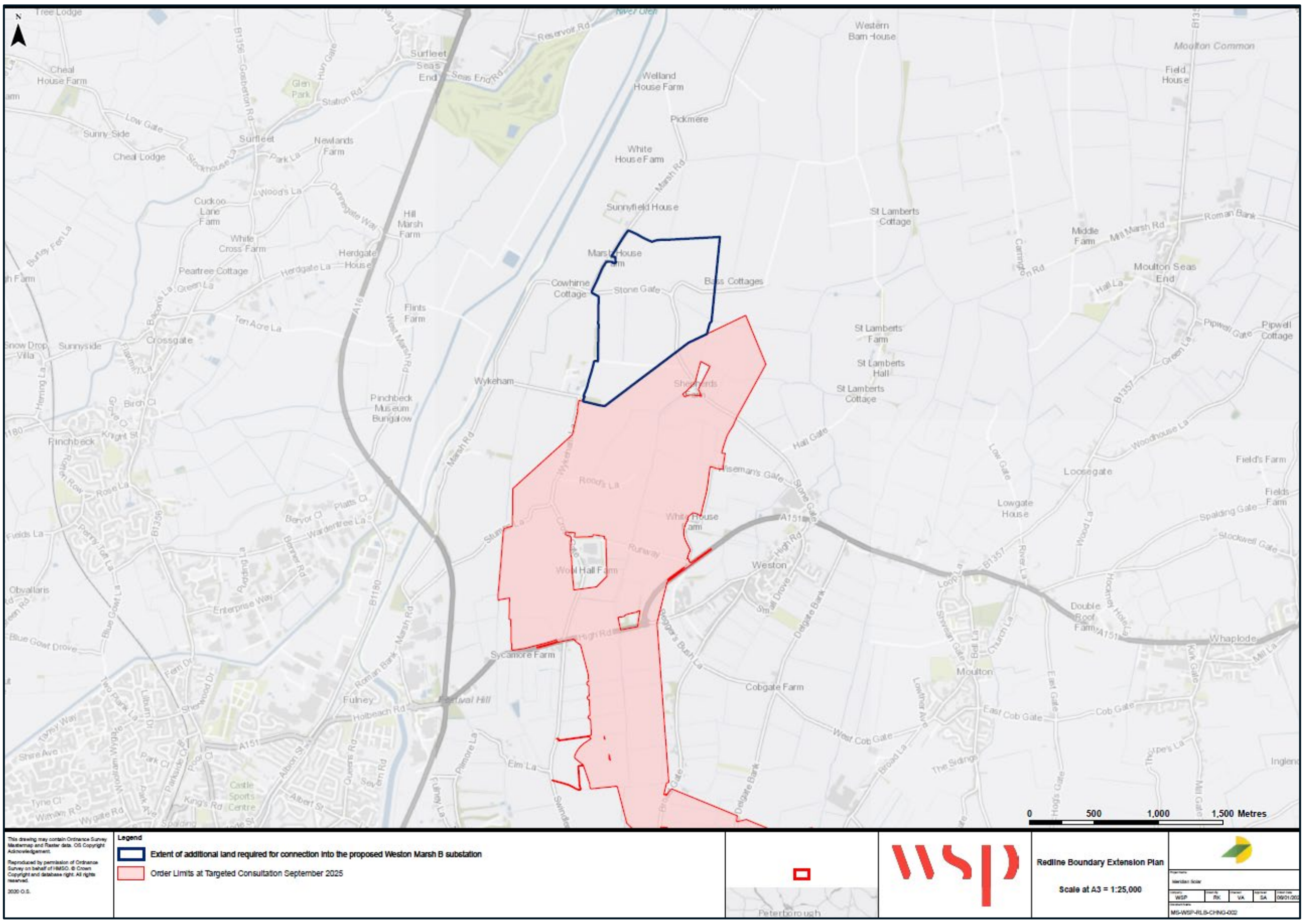


Figure 6-15 Additional Land added to the Order Limits as part of the Second Targeted Consultation

6.4.9. The consultation ensured transparency regarding the late-emerging change and demonstrated the Applicant's continued commitment to engaging with local communities, landowners, and statutory consultees before finalising the Scheme design. All responses from this second consultation were considered alongside previous consultation feedback and are reported within the **Consultation Report** (Doc Ref. 5.1).

6.5. Design Stage 3B – Application Design (2026)

Overview

6.5.1. The Scheme design (Design Stage 3B) represents the culmination of the iterative design process undertaken following the Stage 2 Consultation and the two rounds of Targeted Consultation. This stage integrates:

- refinements arising directly from community and stakeholder feedback;

- updated technical and environmental assessments;
- the revised northern grid connection corridor required in light of NGET's updated substation information.

Purpose of Stage 3B

6.5.2. Design Stage 3B sets out the Scheme design as submitted in the DCO application. While many refinements were incremental and related to the optimisation of access, mitigation, environmental enhancement, and internal parcel layout, the incorporation of the northern extension to the GCC represented the most significant change between Design Stages 2 and 3. This update ensured:

- the Scheme could connect into the new preferred Weston Marsh Substation B location identified by NGET;
- alignment with the evolving G2W transmission proposals; and
- a technically robust and policy-compliant connection arrangement.

6.5.3. These refinements, together with the outcomes of earlier engagement, are summarised within the Consultation Report and reflected in the design summaries set out in the following sections of this chapter.

6.5.4. In a number of instances, land was removed from the Draft Order Limits as it would no longer be required to be included as part of the Scheme. These changes were made to clarify the extent of the Site and were not aligned with a specific Design Principle.

Solar Development Area – Parcel A

6.5.5. The following section summarises the key changes made to the design of the Solar Development Area Parcel A for Design Stage 3:

- Update to the routing strategy for Parcel A to take access through a haul route off Barrier Bank instead of accessing via Cloot Drove. This change reflects feedback received during Stage 2 Consultation where concern was raised regarding the potential impacts of construction traffic through Crowland, particularly in relation to South View Primary School (Principle 4).
- Update the planting and landscaping proposals to take account of the advanced stage of the Landscape and Visual Assessment undertaken. Updated landscaping proposals are proposed to deliver bands of scrubs and scattered trees on the boundaries of the Parcel A to reduce potential landscape and visual effects. Planting within Parcel A would improve connectivity of vegetation and add further to ecology and biodiversity (Principles 4, 8 and 9).

- Ensure an offset for solar infrastructure of approximately 50m from the hedge along the southern boundary of the property in the north east corner of Land Parcel A to maintain open south, south westerly views from Cloot House, particularly from the first floor (Principle 4).
- Reduction in maximum infrastructure heights following completion of detailed hydraulic modelling and flood risk assessment. Maximum heights of solar PV modules, previously assessed at up to 5.7m in Parcel A, and 5.2m in Parcels B, C, and, D at PEIR stage, have been reduced to 4.3m above ground level across all land parcels, with solar station heights similarly reduced to 4.3m, with the exception of Parcel D-1 where the height has been reduced to 4.85m. This change ensures flood-risk mitigation remains sufficient while significantly reducing potential landscape and visual effects (Principles 4 and 7).
- Incorporation of extensive habitat management areas within the Solar Development Area, including areas within and adjacent to Parcel A, contributing to over 170ha of land to be managed as species-rich grassland or targeted arable habitat. These areas are intended to enhance biodiversity, support ecological connectivity and provide specific mitigation for ground-nesting birds such as skylark (Principles 8 and 9).

Solar Development Area – Parcel B

6.5.6. The following section summarises the key changes made to the design of the Solar Development Area Parcel B for Design Stage 3:

- Repositioning of the BESS from being co-located and dispersed across the site at all on-site substations to being located in a centralised location at the 400kV substation. This design decision was taken to promote the most technically suitable and efficient solution, whilst also improving safety and simplifying any necessary emergency response planning. Locating the BESS at a single location also increased the distance from residential properties when compared with the initial design presented at the Stage 2 Consultation. This subsequently has the benefit of reducing potential environmental effects including landscape and visual effects and those relating to operational noise (Principles 1, 2, and 4).
- Relocation of the 132kV substation identified in Parcel B at the Stage 2 Consultation to be in an area at a lower risk of flooding in Parcel C (Principle 7).
- Reconfiguration of the solar panel configuration and layout within Parcel B following the receipt of updated flood risk modelling and the results of

Agricultural Land Classification Surveys. A central area in Land Parcel B was previously indicated to be Grade 1 Agricultural Land, updated surveys and subsequent laboratory testing determined this not to be the case. Updated flood risk modelling did however indicate that areas of Land Parcel B were identified as Flood Zone 3b. In order to appropriately balance the known constraints in the area and ensure the resilience of the Scheme now and in the future, it was determined appropriate to reconfigure the layout to reflect the updated information (Principles 6 and 7).

- Following the reconfiguration of the panelling in Land Parcel B, an area of higher potential for archaeological interest was identified through desk studies and fieldwork. It was determined that this area should be undeveloped and proposed as an ecological mitigation area (Principles 5 and 9).
- Update the planting and landscaping proposals to take account of the advanced stage of the Landscape and Visual Assessment undertaken. Updated landscaping proposals are proposed to deliver bands of scrubs and scattered trees on the boundaries of the Parcel B to reduce potential landscape and visual effects. Planting within Parcel B would improve connectivity of vegetation and add further to ecology and biodiversity. (Principles 4, 8, and 9).
- Refinement of habitat enhancement extents to the north of Parcel B following progression of the ecological and landscape design after statutory consultation. At PEIR stage, additional land was included within the Order Limits on a precautionary basis while confirming the quantum of land required for habitat management and ground-nesting bird mitigation. As the required extent was confirmed, and following landowner comments, the Order Limits were refined to remove land to the north of Parcel B. Sufficient land remains within the Order Limits to deliver all identified habitat management areas and ground-nesting bird mitigation (Principles 8 and 9).

Solar Development Area – Parcel C

6.5.7. The following section summarises the key changes made to the design of the Solar Development Area Parcel C for Design Stage 3:

- Removal of the northernmost area of panelling from Land Parcel C, located directly to the south of Queen’s Bank. It was considered that the inclusion of this parcel of land would pose engineering and construction challenges that were not outweighed by the additional energy yield that it would bring. The parcel of land has been retained within the Order Limits and identified as an area for environmental mitigation and enhancement (Principles 4 and 9).

- Removal of PV panels from the field to the south west of Martins Farm previously proposed at Stage 2 Consultation, together with the removal of the adjacent pasture to the north-west of Martins Farm from the Order Limits. These changes create an increased buffer to Martins Farm and Martins Farm Cottage. An offset from panels of a minimum 130m from the western boundary of Martins Farm approximately up to 100m east from the eastern boundary along Martins Road is proposed to retain the current vegetation patterns of the surrounding fields of Martins Farm and Martins Farm Cottage. In addition, advanced planting consisting of bands of shrubs and scattered trees is proposed along sections of Martins Road east of Martins Farm and Martins Cottages to reduce the potential for landscape and visual effects (Principles 2, 4 and 8).
- Inclusion of an offset of PV panels of a minimum of 80m from the northern boundary of properties off Hull's Drove and the B1166 northwest of Shepeau Stow is proposed to reduce the potential for visual effects. In addition, advanced planting consisting of shrubs and scattered trees is proposed along the southern boundary and southeastern boundary of Land Parcel C in this location (Principles 2, 4 and 8).
- Relocation of the 132kV substation identified in Parcel B at the Stage 2 Consultation to be in an area at a lower risk of flooding in Parcel C (Principle 7).
- Updated hydraulic modelling confirmed that parts of Parcel C fall within Flood Zone 3b (functional floodplain). These areas were excluded from the developable footprint to minimise the amount of development within FZ3b. The panel layout was therefore adjusted to remove development from the FZ3b extents while maintaining an efficient design and ensuring compliance with national flood risk policy (Principle 7).
- Update the planting and landscaping proposals to take account of the advanced stage of the Landscape and Visual Assessment undertaken. Updated landscaping proposals are proposed to deliver bands of scrubs and scattered trees on the boundaries of the Parcel C to reduce potential landscape and visual effects. Planting within Parcel C would improve connectivity of vegetation and add further to ecology and biodiversity (Principles 4, 8 and 9).
- Inclusion of a permissive path within Land Parcel C to improve local accessibility and recreation. This permissive path would link into the existing PROW network, open up the adjacent Scheduled Monument for public

access and provide a link between Queens Bank and Shepeau Stow (Principle 3).

- Introducing a 20m buffer around the Scheduled Monuments from any physical infrastructure (Principle 5).
- Removal of a section of Common Land from the Order Limits, as it was no longer required for the Scheme. This refinement reduced the extent of land within the Order Limits and avoided unnecessary inclusion of Common Land (Principles 4).

Solar Development Area – Parcel D

6.5.8. The following section summarises the key changes made to the design of the Solar Development Area Parcel D for Design Stage 3:

- Inclusion of four additional parcels of land for Solar PV development within Parcel D following their proposed inclusion through feedback received through Stage 2 Consultation (Principle 1).
- Refinement of Inter-Array Connection arrangements within Parcel D following confirmation of land ownership constraints and further design development. A field to the south of the South Holland Main Drain that was previously identified for potential inter-array cabling was removed from the Order Limits when confirmed as Crown Land. The Inter-Array Connection has been reconfigured accordingly, with alternative routing within the remaining Order Limits identified to maintain a deliverable and resilient design (Principle 1).
- Removal of parcel D4 from panelling due to sensitivities and potential UXO risk associated with a historic World War II aircraft crash site. The area previously identified for solar PV is retained within the Order Limits for environmental mitigation and enhancement (Principles 5 and 9).
- Inclusion of a commitment to trenchless techniques for crossing the South Holland Main Drain for cabling between land parcels north and south of Langary Gate Road where it runs parallel to the Drain (Principle 4).
- Selection of the northern option for the 132kV substation, with the southern option removed following consideration of environmental constraints, proximity to residential properties, and the preferred Inter-Array Connection between Land Parcels D and C (Principles 2 and 4).
- Introduction of a minimum 50m offset for PV panels from residences along Langary Gate Road to reduce the potential for visual effects. Habitat Management Areas and advanced planting will further maintain visual

amenity, reduce glint and glare, and enhance landscape character (Principles 2, 4 and 9).

- Update to planting and landscape proposals, reflecting the advanced Landscape and Visual Assessment. Revised proposals include bands of scrub and scattered trees along Parcel D boundaries to reduce landscape and visual effects and improve ecological connectivity (Principles 4, 8 and 9).
- Refinement of access arrangements across Parcel D, with additional field accesses identified from Langary Gate Road. This approach makes use of existing access points wherever possible, reducing the need for new watercourse crossings and associated environmental disturbance (Principles 4 and 6).

Inter Array Connections

6.5.9. The following section summarises the key changes made to the design of the Inter Array Connections for Design Stage 3:

- Selection of underground cabling as the technology choice for the Inter-Array Connection between the 132 kV substation in Parcel A and the 400 kV substation in Parcel B. This decision was primarily driven by consultation feedback and by consideration of the potential safety and operational impacts that an OHL could have on the Peterborough and Spalding Gliding Club operating at Crowland Airfield (Principles 1 and 4).
- Inclusion of a commitment to cross the A16 using trenchless techniques for the Inter-Array Connection between Parcels B and C. This commitment minimises potential impacts on the highway network during construction (Principle 4).
- Selection of a wood-pole OHL route for the Inter-Array Connection between Parcels C and D. This technology choice reflects the assumption in NPS EN-5 that OHLs should be considered the starting point for electricity infrastructure. Both options, an underground cable and an OHL, were considered for the Inter-Array Connection between Land Parcels C and D and an environmental assessment of both of these options was presented within the PEIR published with statutory consultation (Design Stage 2). In summary, neither of the options were considered to result in significant residual environmental effects with the application of mitigation. Moreover, the effects of an OHL were considered to be less than that of an underground cable, as a result of the reduced extent of ground disturbance required during construction. As such, an OHL was selected for the Inter-Array Connection between Land Parcels C and D (Principle 1).

6.5.10. The route of the OHL Inter Array Connection between Land Parcels C and D sought to follow the principles outlined in the Holford Rules, particularly Rule 3 which advocates that, where all things are equal, the most direct route should be taken in order to avoid unnecessary deviation.

6.5.11. The indicative route of the wood pole OHL was developed to take account of proximity to dwellings in the vicinity and to be equidistant to residential properties where it crosses Dog Drove, Chapel Gate and Eaugate Road to the north of Whaplode Drove.

Grid Connection Route

6.5.12. The following section summarises the key changes made to the design of the Grid Connection Route:

- Extension of the Order Limits to the north to facilitate a connection to the proposed Weston Marsh B substation, to be consented and delivered by NGET (Principles 1 and 10).
- Introduction of a new access from the A16, removing the need to route construction traffic along Moulton Chapel Road (previously assessed at PEIR), thereby reducing potential impacts on residential properties (Principle 4).
- Installation of bird diverters on sections of the OHL to minimise collision risk for birds and reduce ecological impacts (Principle 9).
- Extension of Order Limits at the south-east corner of Wool Hall Farm, north of the A151, to ensure sufficient separation distances for the safe construction and operation of both the Scheme OHL and the G2W OHL (Principles 1 and 10).
- Rerouting and repositioning of the OHL, with an associated extension of the Order Limits south of the A151 towards the Broad Gate / Delgate Bank crossing, to ensure design compatibility with the G2W OHL (Principles 1 and 10).
- Inclusion of extensions to the Order Limits to facilitate construction activities and to provide highways access for construction traffic, operational access and access (Principle 4).
- Inclusion of a section of underground cabling and CSECs where the Grid Connection Route crosses the existing NGED 132kV OHL to the east of Delgate Bank (Principles 1, 4 and 10).
- Realignment of the Grid Connection Route to increase the distance from a property at Delgate Bank, following consultation feedback (Principle 4).

- Reductions to the Order Limits across the Grid Connection Route compared to the statutory consultation design, in areas where land is no longer required to construct the OHL. This refinement reduced the overall extent of land within the Order Limits, notwithstanding localised extensions required to accommodate design and interface requirements (Principle 1).

6.5.13. Design changes have been made to adjust the alignment of the Grid Connection Route to respond to consultation feedback received during the Stage 2 Consultation. Pylons 4SV8 and 4SV9 (refer to **ES Figure 2-4: Grid Connection Route Layout Plan** (Doc Ref. 6.2) for the locations of the pylons referenced through this section) have been moved closer to field boundaries to reduce potential effects on agricultural operations. The design aims to achieve a balance between the protection of the field drains from temporary and permanent works and reducing the potential for disruption to ongoing farming practices.

6.5.14. 4SV11 - 4SV13 have been realigned to reduce potential impacts upon a residential property on Delgate Bank. From its original positioning, 4SV12 has been moved southwest along the alignment to increase the distance between the property and the OHL to the south between 4SV10 and 4SV12.

6.5.15. A section of underground cabling has been added to the Grid Connection Route, crossing the existing 132kV OHL between 4SV15 and 4SV16. Oversailing the existing asset is not technically feasible, therefore, the option to underground the proposed alignment was introduced to avoid impacting the existing infrastructure. Two cable sealing end compounds either side of the existing 132kV OHL have been added into the design along with the associated works.

6.5.16. Moving north, 4SV23 has been moved south by 40m to balance spans and reduce the potential impact on farming practices, by moving it closer to the field boundary.

6.5.17. 4SV26 – 4SV39 have been realigned to enable the G2W and the Scheme OHLs to run parallel. The routing has been designed collaboratively between project teams to achieve a technically feasible solution, whilst maintaining standoffs from residential curtilages and reducing potential impacts. The Meridian Solar Grid Connection Route would route on the western and southern side of the paralleled section, resulting in pylons moving west and south to allow sufficient room for the G2W OHL. An additional angle has been included at 4SV28 to maintain the angle at 4SV26 avoiding further impacts on the alignment to the south. It is noted that NGET has not yet released their updated alignments through public consultation which show this routing, particularly in the area captured within Work No 14, although it is understood that should progress in due course. In the meantime, the Scheme has retained flexibility in this area (as addressed in the next paragraph), should further alignment changes be required.

6.5.18. An area of flexibility for routing the grid connection into the assumed substation siting area for the proposed Weston Marsh B substation has been included within the Order Limits as Work No. 14. This reflects the area north of the A151 up to the connection at Weston Marsh Substation B, and is required to maintain a deliverable and coordinated connection arrangement in light of NGET's updated preferred substation location and ongoing G2W alignment refinement. An indicative, preferred route, based on the engagement with NGET outlined in 6.5.17, is shown through this section, but the limits of deviation retain flexibility for changes in route (should any be required) once the confirmed substation position, connection design and G2W and WMEL alignments are known.

6.5.19. As an assumed substation siting area has now been identified, the previously proposed underground cabling designed to cross the existing 400kV 2WS has been removed from the indicative alignment on the basis that this asset is expected to be removed by NGET as part of the G2W project. However, while the Scheme is designed on the basis that the grid connection will be delivered as an OHL, flexibility is retained to allow for either overhead or underground installation within the final routing/siting area captured by Work No. 14, should this be required to respond to NGET's finalised designs for the G2W and WMEL infrastructure or other technical constraints.

7. How the Scheme Meets the Vision and Principles

7.1. Accordance with the Design Principles

7.1.1. The iterative design process for the Scheme has guided by the Design Principles outlined in **Section 4.3** of this DAD. These Principles have shaped the evolution of the Scheme from its concept through to the final Scheme design in the DCO application, informing the response to environmental constraints, stakeholder and community feedback, and technical and engineering requirements. This section explains how each Principle has been met and how the final Scheme achieves a well-designed, policy-compliant and environmentally responsible proposal.

7.1.2. **Design Principle 1** - Deliver a technically compliant Scheme that is safe, secure, efficient and maximises the ambition to deliver clean, green energy to the National Grid:

- Across all stages of design development, the Scheme has been shaped by the objective of maximising renewable energy generation within the constraints of the Site and in accordance with national policy support for large-scale solar NSIPs. The Solar Development Area has been refined to optimise panel layout, solar exposure, operational efficiency and compatibility with local environmental and technical constraints. The adoption of fixed south-facing solar PV modules follows a detailed assessment of technological alternatives, demonstrating that this configuration provides the most appropriate balance between energy yield, environmental effects, land take and operational reliability.
- Technical feasibility and safety considerations have been fundamental to solar, substation and battery technology decisions. Through the design evolution process, the Applicant moved from an initial DC-coupled battery strategy to an AC-coupled arrangement, and subsequently to a centralised BESS located at the 400kV On-Site Substation. This approach reduces the number of distributed electrical installations across the SDA, provides greater flexibility in emergency access and fire response arrangements, minimises noise effects by removing BESS infrastructure from proximity to residential receptors, and reduces the potential for cumulative environmental impacts. The centralised BESS location also avoids areas at higher flood risk and enables appropriate fire safety infrastructure, two-point emergency access, clear egress routes and operational separation distances to be incorporated as embedded design measures.

- Grid connection routing and technology selection have similarly been informed by technical deliverability and safety considerations. In line with national policy (EN-5), an OHL was selected as the starting point for the grid connection technology. Detailed assessment of undergrounding alternatives confirmed that an underground solution would require substantially greater ground disturbance, more complex engineering and would not be justified given the feasibility, cost and constructability considerations of the Scheme. The overhead alignment was developed in accordance with the Holford Rules and the Horlock Rules, ensuring careful siting of pylons, minimisation of angles, and sensitivity to settlements, field boundaries and landscape patterns.
- Finally, the Scheme has been designed to be resilient to ongoing changes in NGET proposals, including the shift in preferred siting of the Weston Marsh substation and the need to maintain compatibility with the emerging G2W project. This has resulted in a technically robust and coordinated grid design that ensures the Scheme can be safely constructed, lawfully operated, and efficiently connected to the National Grid.

7.1.3. **Design Principle 2** - Seek to integrate the Scheme sensitively within the landscape to reduce the potential landscape and visual effects where practical:

- Integration of the Scheme into the fenland landscape has informed the evolution of the design, with particular regard to openness, rectilinear field patterns and expansive horizons that characterise the Fens. The layout has been developed to align, where practicable, with existing field structures, drainage ditches and landscape features. During Stage 2 and Stage 3 of the design process, the maximum height of solar PV infrastructure was reduced (to a maximum of 4.3m above ground) following detailed flood modelling, ensuring flood resilience could be achieved without introducing unnecessary vertical scale. Solar station heights were also reduced. These refinements directly reduced potential landscape and visual effects and minimised the prominence of solar arrays in sensitive views.
- Vegetation proposals have been carefully developed to align to both local landscape character and placemaking considerations. The Scheme introduces scattered tree and shrub planting, selective hedgerow strengthening along key boundaries, and targeted visual screening near settlements, roads and residential receptors. This approach softens views of the Solar Development Area while retaining the essential openness of the landscape.
- Existing vegetation patterns have been respected, with loss of established vegetation minimised and offsets maintained from trees, hedgerows,

Scheduled Monuments and on-site drains and ditches. New landscape planting has been designed to integrate with existing vegetation corridors and principal drainage features flowing through the Site, improving ecological connectivity and reinforcing landscape structure, while also supporting recreational connectivity where paths and access routes interact with the Scheme.

- The design incorporates appropriate buffers from settlements and individual residential properties, with landscape planting specified to filter views and improve the relationship between the Scheme and its surroundings. This includes the provision of offsets and, where appropriate, advance landscape planting in proximity to Cloot House, Martins Farm, dwellings off Hull's Drove, Queens Bank and Langary Gate Road. These measures contribute to a more legible and locally responsive edge between development and settlement, supporting placemaking outcomes alongside landscape integration.
- The Grid Connection Route was refined to remain distant from the most sensitive settlements, minimise skyline intrusion and respond to fenland landscape considerations, applying the Holford Rules where practicable. During Stage 2 and 3 refinements, alignments were adjusted to pull the OHL further away from residential clusters, reduce the number of angle towers, avoid locally elevated viewpoints, and respond to feedback from landscape officers and community consultees.

7.1.4. **Design Principle 3** – Seek to incorporate opportunities to enhance local recreation and access

- The Scheme delivers enhanced recreational connectivity through the introduction of a new permissive path, linking Queens Bank and Shepeau Stow, passing alongside the Scheduled Monument (Settlement W of Cate's Cove Corner), and integrating into the wider PRoW network. Designed for walkers, cyclists and horse riders, the path provides new opportunities for local recreation and includes provision for interpretative materials related to both natural and cultural heritage.
- Throughout the design process, all existing PRoWs were retained in situ, with buffers provided around them to maintain amenity and safety. Feedback from consultation directly influenced improvements in access arrangements, including the adoption of the Barrier Bank construction access to remove construction traffic from routes near South View Primary School and avoid routing HGVs through Crowland where concerns had been raised.

- Landscape proposals include targeted enhancements to amenity corridors, with the aim of maintaining legibility and local distinctiveness along PRoWs and local routes where practicable. While these measures contribute to recreational experience in some locations, the LVIA identifies that significant adverse landscape and visual effects nonetheless occur at certain PRoW viewpoints, reflecting the sensitivity of the landscape and the scale of the Scheme.

7.1.5. **Design Principle 4** – Ensure responsible construction, ongoing maintenance and decommissioning

- Responsible construction and future operation have been embedded into the Scheme through strategy routing, access rationalisation and the minimisation of impacts on sensitive receptors. The construction access strategy was significantly refined following Stage 2 consultation, including the removal of HGV access via Queen's Bank (except for Abnormal Indivisible Loads) and the introduction of internal haul roads to minimise the use of local roads. These refinements directly reduce construction traffic noise effects, improve safety for local communities and avoid routing traffic past sensitive receptors such as schools.
- Noise considerations influenced the selection of a centralised BESS, which reduces operational noise exposure for residential receptors compared to a distributed layout. The re-siting of substations and panel layouts to avoid sensitive receptors further ensures that the Scheme can be safety operated without generating unacceptable amenity effects.
- Drainage management has been integrated into the Scheme through SuDS features, appropriate setbacks from drains and watercourses, and internal track alignments to minimise earthworks. Decommissioning has been considered throughout, with infrastructure selected and designed to allow removal with minimal ground disturbance and restoration of land to agricultural use.
- The consideration of residential dwellings and other sensitive receptors has been factored into design development throughout the evolution of the Scheme. The inclusion of offsets from residential properties in the Solar Development Area will reduce the potential for visual effects. Consultation feedback received has directly influenced the technology choice for the Inter Array Connection between Land Parcel A and Land Parcel B as well as influencing the routing of the Grid Connection Route for the application design.

7.1.6. **Design Principle 5** – Respect the history of the site and seek to protect cultural heritage features

- The Scheme has been informed by detailed heritage and archaeological assessment, including desk-based study, geophysical survey, trial trenching and aerial analysis. Development is excluded from the two Scheduled Monuments within Parcel C, with defined buffers applied to protect their significance. Where infrastructure is required within areas of archaeological sensitivity, the resulting impacts are acknowledged and addressed through a secured programme of archaeological mitigation secured by the Outline Archaeological Mitigation and Management Strategy.
- In determining the form of the grid connection, potential impacts on the historic environment were a key consideration alongside technical, environmental and deliverability factors. In this context, the use of an OHL was identified as offering advantages in relation to the historic environment, as underground cabling would require extensive ground disturbance through continuous trenching, increasing the risk of direct effects on known and potential below-ground archaeological remains. By contrast, an OHL approach limits ground disturbance to discrete foundation locations, allowing impacts to be more readily avoided, minimised or mitigated through micrositing and targeted archaeological mitigation where required.
- The Grid Connection Route was designed specifically to avoid direct effects on the Wykeham Chapel Scheduled Monument. Pylon locations were sensitively microsited to minimise potential impacts on historic landscape character and known archaeological features. During the consideration of alternative northern corridor options, both routes were identified as having historic environment sensitivities, including the presence of numerous listed buildings, with the north-west corridor bordering a Scheduled Monument and the north-east corridor lying closer to the Moulton Conservation Area. The selected route reflects a balanced consideration of these heritage constraints alongside ecological and other environmental factors. Where archaeological potential was identified on roddon landforms within the SDA, the design incorporated avoidance or mitigation strategies such as open-space uses (habitat management) rather than infrastructure placement.

7.1.7. **Design Principle 6** – Support ongoing agricultural productivity

- ALC surveys have informed the iterative refinement of the SDA. The Scheme avoids impacts on the most extensive areas of Grade 1 land wherever practicable, and where development on BMV land is required, the design seeks to minimise permanent land take and maintain the potential for agricultural use between and around solar arrays

- During Stage 2 and 3, land parcels containing higher concentrations of Grade 1 soils (particularly within Parcel C) were removed from development, reconfigured to reduce solar infrastructure on those locations, or retained in agricultural use with adjusted management compatible with habitat objectives, ensuring no permanent loss of agricultural productivity where infrastructure is not present. The minimisation of pylon footprint, use of driven piles, limited hardstanding, and the retention of farming access tracks ensure that compatible agricultural operations can continue around solar and grid connection infrastructure.
- To further support ongoing agricultural productivity, no woodland blocks are proposed as part of the landscape design. Landscape mitigation is confined to boundary tree and hedgerow planting, which limits long-term restrictions on agricultural use while maintaining field integrity and farming operations.
- Engagement with landowners also informed decisions on site layout and parcel utilisation, enabling fields with higher productivity or challenging drainage characteristics to remain available for agricultural use.

7.1.8. **Design Principle 7** – Manage water, improve quality, reduce pollution

- Hydrological and flood risk considerations played a central role in design evolution. The scheme maintains substantial offsets from watercourses (20m from main rivers and 10m from drains where practicable) to protect water quality, maintain drainage functions and avoid disturbance to ditch ecology.
- Following detailed hydraulic modelling, the layout and parameters of the Scheme were refined to minimise flood risk and avoid the functional floodplain. All vulnerable infrastructure has been located outside Flood Zone 3b (functional floodplain), with the exception of six solar stations within the Gotts Catchment (Parcel D-1), where siting within Flood Zone 3b is unavoidable due to operational and engineering constraints. In these locations, enhanced flood resilience measures have been incorporated, including raised plinths providing 600 mm freeboard above the design flood level, in accordance with Environment Agency advice
- Detailed flood modelling further informed design refinements, including reduced maximum solar PV heights and reconfiguration of panel areas in Parcels B and C to remove infrastructure from areas identified as Flood Zone 3b. The On-Site 132 kV Substation was relocated into Parcel C to avoid flood

hazard areas associated with potential breaches of River Welland flood defences.

- The Scheme incorporates a comprehensive Sustainable Drainage System (SuDS) strategy to manage surface water quantity and quality. Surface water runoff from impermeable areas is managed through swales, attenuation basins, filter strips and controlled outfalls, designed in accordance with the Simple Index Approach in the SuDS manual to ensure effective treatment of suspended soils, hydrocarbons and metals. Post-development runoff rates and volumes are restricted to greenfield conditions, ensuring no increase in flood risk on-site or off-site.
- Specific measures have been embedded within the design to prevent pollution of watercourses, including in emergency scenarios. The BESS drainage strategy incorporates lined attenuation and containment infrastructure to ensure that, in the unlikely event of a fire, fire-water runoff is captured, retained and tested before any controlled discharge or removal from site, preventing contaminated water entering the surrounding drainage network. These measures are secured through the **Outline Drainage Strategy** (Doc Ref. 6.3) and the **Outline Battery Safety Management Plan** (Doc Ref. 7.18).
- The Grid Connection Route has been designed to minimise interaction with the water environment. An OHL solution avoids the need for continuous trenching, reducing disturbance to watercourses and ditch morphology. Where watercourse crossings are required, these are limited in number and designed to maintain flow, protect channel form and avoid adverse effects on water quality and hydromorphology.

7.1.9. **Design Principle 8** – Design the Scheme to align with existing field boundaries and existing landscape features and vegetation

- The Scheme has been designed to respond to the existing agricultural structure of the Fens, maintain the rectilinear pattern of fields, drainage ditches and farm access routes. Solar panel rows and access tracks follow existing field geometry, minimising disruption to the landscape fabric and reducing the need for vegetation removal.
- Vegetation has been retained wherever possible, with planting proposals developed to complement the openness of the fenland landscape while providing necessary screening and ecological enhancement. The OHL alignment avoids severing established field boundaries and is routed to minimise interaction with hedgerows and tree belts.

- Across all land parcels, the design respects the characteristic linear drainage network by retaining ditch alignments, utilising existing gaps for access, and avoiding hard infrastructure placement that would introduce incongruous patterns within the fenland landscape.

7.1.10. **Design Principle 9** – Seek to avoid potential impacts on biodiversity and provide enhancement through the provision of habitat mitigation and enhancement areas to achieve a minimum of 10% Biodiversity Net Gain

- Ecology has been a key driver of design evolution. The Scheme incorporates significant areas of habitat creation and enhancement, totalling more than 170ha of management areas, which include species rich grassland, arable reversion, wetland features, and targeted habitat for ground-nesting birds such as skylark.
- Ecological constraints directly influenced layout changes, such as avoiding badger setts through buffers/micro-siting and providing separation from Local Wildlife Sites. The incorporation of bird diverters on the OHL reflects the Scheme's commitment to reducing collision risk for sensitive species.
- The centralised BESS location reduces the overall spatial extent of built infrastructure and associated access requirements across the Site, thereby limiting the spread of environmental disturbance.
- Hedgerow strengthening, ditch enhancement and the creation of ecological corridors improve habitat connectivity across the Site. The Scheme is designed to deliver at least 10% BNG, with the **OLEMP** (Doc Ref. 7.16) securing habitat establishment, long-term management and monitoring.

7.1.11. **Design Principle 10** - Design the Scheme sensitively to ensure compatibility with other proposed developments in the area

- The Scheme has been developed in close coordination with NGET's proposals for the G2W project and the evolving design of the Weston Marsh substation. Following NGET's updated information in late 2025, the Applicant undertook a further found of targeted consultation and extended the Grid Connection Route northwards to ensure that the Scheme could connect safety and efficiently into NGET's revised preferred substation location.
- Throughout the grid connection design process, the Applicant has taken account of the emerging alignment, design and construction requirements of the G2W OHL, ensuring that infrastructure spacing, safety clearances, access corridors and construction logistics are compatible with future works. The refinement of the OHL alignment at Stage 3 demonstrates the Scheme's

ability to adapt to external infrastructure requirements and maintain policy-compliance electricity network integration.

- The Applicant has commenced engagement with relevant statutory undertakers to understand asset constraints and operational requirements, and will continue this engagement as the Scheme progresses. Appropriate protective provisions are being agreed with statutory undertakers and will be included within the Draft DCO to safeguard their assets, ensuring that construction, operation and maintenance of the Scheme are coordinated with other infrastructure and that impacts on existing assets are minimised.

7.2. Delivering the Vision

7.2.1. The Design Vision for the Scheme seeks to deliver a nationally significant renewable energy project that maximises the generation of clean, green electricity while being sensitive to its surroundings and responsive to the needs of communities and the environment. This Vision has been embedded throughout the iterative design process and secured the Design Principles.

7.2.2. As demonstrated in this section, the final Scheme integrates technical excellence with environmental stewardship, landscape sensitivity, heritage protection, sustainable land use and biodiversity enhancement. The Scheme responds to national policy imperatives for renewable energy delivery while respecting local context and community concerns. The design evolution has reduced environmental effects, strengthen recreational opportunities, enhanced ecological value, improved drainage and landscape integration, and ensured compatibility with wider electricity network development.

7.2.3. Together, the Design Principles and design outcomes that have been shaped ensure that the DCO Application reflects the Vision articulated at the outset of the project: a scheme that delivers significant national benefits in the transition to net zero while being sensitively integrated into the fenland landscape, informed by engagement, and grounded in good design.

8. Deliverability of Good Design

8.1. Introduction

8.1.1. The Planning Inspectorate's Advice on Good Design for NSIPs[9] explains that the Examining Authority (ExA) needs to be satisfied that there is evidence that applicants have engaged in and are committed to a process that can deliver good design outcomes, which are specific and proportionate to the type of infrastructure proposed. It further explains that these need to be secured by the DCO through requirements, conditions, management plans or other certified documents.

8.1.2. The mitigation and design commitments relevant to the delivery of good design are secured through the Requirements of the **Draft DCO** (Doc Ref. 3.1) and the certified control documents themselves, including the **Design Parameters** (Doc Ref. 7.4), the **Works Plans** (Doc Ref. 2.3), and topic-specific management plans such as the **OLEMP** (Doc Ref. 7.16). These documents provide the controlling mechanisms through which the Design Principles are implemented and carried forward into detailed design.

8.2. Approach to the Application

8.2.1. The detailed design for the Scheme would be developed following the grant of the DCO and is subject to approval by the local planning authority. The need for flexibility in design, layout and technology use in DCO applications is recognised in national policy and guidance. As the technologies proposed are rapidly evolving, some flexibility is sought at the application stage to allow the Scheme to utilise the best technology available at the time of future construction to maximise the benefits the Scheme would deliver.

8.2.2. The **Draft DCO** (Doc Ref. 3.1) defines the Scheme and sets out the legal powers that the Applicant is seeking to deliver the Scheme. Schedule 1 of the Draft DCO defines the physical components of the Scheme in a series of Work Nos., whilst Schedule 2 sets out the Requirements for the Scheme to secure further detail on design and technical matters following granting of the DCO.

8.2.3. The DCO is supported by a suite of Control Documents to ensure that the design of the Scheme is appropriately considered and controlled, including the implementation of mitigation and enhancement measures which form part of the

[9] https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-good-design

proposals. Some Control Documents are compliance documents which must be complied with when carrying out the authorised development, whereas others provide a framework for further detailed strategies post-consent. The **Guide to the Application** (Doc Ref. 1.3) provides a list and explanation of the Control Documents, which include (but are not limited to):

- the **Works Plans** (Doc Ref. 2.3);
- the **Streets, Rights of Way and Access Plans** (Doc Ref. 2.6);
- the **Design Parameters** (Doc Ref. 7.4);
- the **Outline Construction Environmental Management Plan** (Doc Ref. 7.10);
- the **Outline Operational Environmental Management Plan** (Doc Ref. 7.11);
- the **Outline Decommissioning Environmental Management Plan** (Doc Ref. 7.12);
- the **Outline Landscape and Ecology Management Plan** (Doc Ref. 7.16); and
- other topic-specific management plans and strategies secured through the Requirements in Schedule 2 of the **Draft DCO** (Doc Ref. 3.1).

8.2.4. The layout and distribution of the Scheme is secured by the **Works Plans** (Doc Ref. 2.3), and the location of access and highways works are secured by the **Streets, Rights of Way and Access Plans** (Doc Ref 2.3).

8.2.5. The **Design Parameters** (Doc Ref. 7.4), set out key maximum and minimum parameters for the components of the scheme. Requirement 5, within Schedule 2 of the **Draft DCO** (Doc Ref 3.1) requires the detailed design to accord with the **Design Parameters** (Doc Ref. 7.4). distribution of the Scheme is secured by the **Works Plans** (Doc Ref. 2.3).

8.2.6. Further details on the construction, operation (including maintenance) and decommissioning of the Scheme are provided within **ES Chapter 2: The Scheme** (Doc Ref. 6.1), and Article 5 of the **Draft DCO** (Doc Ref. 3.1) requires the Scheme to be operated such that it will not give rise to any materially new or different effects from that reported in the ES.

9. Conclusion

9.1.1. The contents of this DAD set out how the Scheme will be delivered in accordance with the project vision:

Meridian Solar Farm will generate and deliver up to 750MW (AC) of renewable energy to the National Grid whilst being sensitive to its surroundings. The project will conduct meaningful engagement with communities and stakeholders to ensure it would be sited to take account of the local environment and the visual amenity of people and communities. The project will identify and incorporate opportunities to embed resilience and sustainability into the design whilst respecting cultural heritage, enhancing biodiversity and exploring the potential to enhance recreational access across the site.

9.1.2. The Scheme specific Design Principles, which were prepared in line with reference to the National Infrastructure Commission's guidance, have acted as a benchmark against which decisions have been taken throughout the iterative design process.

9.1.3. The design evolution set out in this DAD demonstrates how the Design Principles have informed the design which has sought to reduce the potential for adverse environmental effects and maximise positive outcomes.

9.1.4. The design would be secured through means in the DCO, demonstrating the thread of good design, coupled with the application of the mitigation hierarchy, that has been woven through the whole pre-application phase and will continue to inform detailed design development.

Appendix 1 Consideration of Planning Inspectorate Advice on Good Design

Issue	Considerations	Meridian Solar Farm Response
Design Approach Document	Is a DAD Provided?	Yes. The **Design Approach Document (**Doc Ref. 7.3) accompanies the DCO Application.
	Does the DAD address the brief, the design process, the design principles, and beneficial outcomes?	Yes. **Section 4** explains the design framework (vision and principles) and how it embeds good design; **Section 6** sets out the staged evolution (non-stat, statutory and targeted consultations, then application design); **Section 7** evidences delivery against each principle; **Section 8** explains the controls that will secure outcomes post-consent.
	If a DAD is not provided, where are the design process and design principles set out?	N/A
Analysis, Research	How has the development site been analysed to inform a good design approach?	**Section 3** presents a multi-disciplinary baseline for landscape, ecology, heritage, soils/ALC, water, access/PRoW and settlements; constraints and opportunities are summarised at **3.10**. This evidence underpins the principles in **Section 4** and specific changes in **Section 6**.

Issue	Considerations	Meridian Solar Farm Response
	What are the main conclusions from this analysis that inform the design at this stage and as it develops?	The analysis identifies a series of key conclusions which have informed the Scheme design to date and will continue to guide its development. These include: i. the need to respond to the open, flat and rectilinear character of the Fenland landscape by retaining openness and using scattered trees and shrubs rather than dense hedgerow belts, so that mitigation remains character-true; ii. flood risk considerations, including the exclusion of solar arrays from Flood Zone 3b and other infrastructure from Flood Zones 3a and 3b where practicable, reductions in PV panel heights in response to flood modelling, relocation of the 132 kV substation to Parcel C, and the provision of flood protection measures for the On-Site Substation, BESS Compounds and solar stations where required; iii. agricultural land considerations, with permanent land take on Best and Most Versatile land minimised where practicable, more sensitive areas repurposed for environmental enhancement, and no woodland blocks proposed as part of the landscape strategy on BMV land; iv. heritage and archaeological constraints, including buffers and changes in land use around Scheduled

Issue	Considerations	Meridian Solar Farm Response
		Monuments, and the use of UXO-influenced areas within Parcel D to inform the provision of open space and layout decisions; v. access and PRoW considerations, including the incorporation of offsets from existing routes and the provision of a permissive path within Parcel C; and vi. the incorporation of appropriate offsets from sensitive receptors, including watercourses, drains and ditches, and nearby residential properties, to reduce potential environmental and amenity effects.
Response	What are the main significant adverse effects of the proposed development and how are they addressed to enable good design?	The Environmental Statement identifies a limited number of significant adverse effects, which have informed and shaped the Scheme design through embedded mitigation measures. The key effects and responses are summarised below: • **Landscape and visual effects:** The ES identifies significant adverse effects on landscape character and visual amenity during construction, operation, and decommissioning, reflecting the scale of the Scheme within the open Fenland landscape and the sensitivity of nearby visual receptors (**ES Chapter 12** (Doc Ref 6.1)). These effects have been addressed through careful

Issue	Considerations	Meridian Solar Farm Response
		siting of infrastructure, reductions in maximum infrastructure heights, the retention of open character, and the incorporation of extensive landscape mitigation and habitat corridors, including over 170 ha of habitat management areas and strategically placed tree and shrub planting to soften views over time. • **Archaeology and heritage:** Significant adverse effects are identified where below-ground works intersect with areas of high archaeological potential, and where changes to setting affect Scheduled Monuments and the historic landscape character (**ES Chapter 8** (Doc Ref 6.1)). The design responds by avoiding infrastructure within Scheduled Monuments, applying buffers, relocating or refining infrastructure layouts, repurposing sensitive areas for open space or habitat management, and securing an Archaeological Mitigation and Management Strategy to manage residual effects. • **Agricultural land use:** The ES identifies significant adverse effects arising from the long-term, reversible use of Grade 1 and Grade 2 agricultural land within the Solar Development Area (**ES Chapter 5** (Doc Ref 6.1)). This has informed the design by minimising

Issue	Considerations	Meridian Solar Farm Response
		permanent land take on BMV land where practicable, excluding areas of higher quality land from infrastructure, retaining land in agricultural use where practicable, and avoiding woodland planting on BMV land. • **Noise and traffic (construction-related):** Localised significant adverse effects are identified in relation to construction traffic noise and specific construction activities at a small number of receptors (**ES Chapters 13 and 15** (Doc Ref 6.1)). These effects are addressed through design refinements, access strategy changes, and the implementation of embedded mitigation secured through the **Outline Construction Environmental Management Plan** (Doc Ref 7.10) and **Outline Construction Traffic Management Plan** (Doc Ref 7.13). Overall, the ES demonstrates that these significant adverse effects have been reduced as far as reasonably practicable through design-led mitigation, with remaining residual effects clearly identified and managed through secured controls.
Vision	What is the vision for the completed development and its surroundings? Where is it set out?	The Vision is set out at **4.2** and is carried through the principles at **4.3**, with delivery evidence in **Section 7**. It

Issue	Considerations	Meridian Solar Farm Response
		prioritises large-scale clean energy while being sensitive to place, heritage, biodiversity and access.
	Set out the narrative, how the vision will achieve sustainability, create a new place and hold the design together.	The design vision (see **Section 4**) establishes a framework that ensures the Scheme delivers renewable energy in a way that is environmentally responsible, resilient and integrated. The vision is supported by a set of Design Principles that have been applied consistency across each design iteration, holding the design together and ensuring that all components – Solar Development Area, Inter-Array Connections and Grid Connection Route – form a coherent whole. The vision drives sustainability by embedding biodiversity enhancement, flood-resilient design, landscape-led layout, mitigation planting and over 170 ha of habitat management areas. It also enables the creation of a new, multifunctional landscape through improved ecological connectivity, buffers to sensitive receptors, and enhanced recreational access, including a permissive path.
Skills	What professional disciplines and skill sets are being and will be working on the design of the project?	The Applicant has assembled a broad and interdisciplinary team to design the Meridian Solar Farm, ensuring that technical, environmental, landscape and stakeholder considerations are integrated throughout the design evolution. Details of environmental specialists, their experience and professional competencies are reported in

Issue	Considerations	Meridian Solar Farm Response
		ES Appendix 1-3: EIA Statement of Competence (Doc Ref. 6.3).
	Is there a design champion designated for this project, and if so, who is it and what are their skills?	A formal Design Champion has not been designated for the Scheme at the application stage. Good design has instead been embedded through a collaborative, multidisciplinary design process. Design quality during the detailed design phase will be carried forward through compliance with these secured controls and the approval of certified plans and management documents.
Developing the design	Describe the approach to good design and explain how the design has (and will continue) to evolve.	**Section 4** sets the framework; **Section 5** details Stage 1 (non-stat), Stage 2 (statutory), targeted consultations (3A) and Application Design (3B), including late change to the Grid Connection Route to remain coordinated with NGET Weston Marsh B and G2W. **Section 6** demonstrates delivery against each principle. Post-consent evolution is controlled by DCO Requirements and certified documents per **Section 7**.
	How is any required flexibility being addressed?	**Section 5** of the DAD describes how flexibility is being addressed.
	What design choices have (and will be) made?	See **Section 6**. Examples include: centralised BESS at 400 kV (due to safety, noise, efficiency); relocation of 132 kV substation to Parcel C (flood resilience); FZ3a & FZ3b exclusions for solar stations, FZ3b exclusions for arrays, where practicable; OHL with selected UGC crossing to manage existing 132 kV asset; bird diverters

Issue	Considerations	Meridian Solar Farm Response
		on OHL; A16 access to reduce traffic through sensitive roads; permissive path in Parcel C; buffers to Scheduled Monuments/PRoW; fen-appropriate planting textures. (6.4, Table 6-12, Inter-Array/ Grid sections).
	What are the emerging design principles and how have the principles directly informed decision making?	The **Design Principles** are set out at **4.3** and are cross-walked in **Section 7** ("Accordance with the Design Principles"), with concrete examples and controls.
	Is there a hierarchical approach to elements of the proposal (for example in designing major and less important bridges in a highways scheme)?	Yes. While the Scheme hasn't applied a formal hierarchal approach to the design principles, the Applicant has adopted a structured approach to the design of different components of the Scheme, reflecting their relative functional importance and constraints. In particular, Design Principle 1 (technical compliance, safety and deliverability) is fundamental to the viability of the Scheme and must be met in all instances. As a result, it has acted as an informal "lead" consideration during option-testing, in that design decisions have consistently been checked against whether they remain technically compliant, safe and deliverable. The most operationally critical elements of the Scheme—such as the 400kV and 132kV substations, BESS Compound, Inter-Array Connections and the 400kV Grid Connection—have therefore been subject to dedicated engineering and environmental assessment work and have strongly influenced the overall layout.

Issue	Considerations	Meridian Solar Farm Response
		Other components, including solar PV arrays, access tracks and internal cabling, have been designed with greater flexibility, enabling sensitive siting around heritage assets, residential receptors, watercourses, drainage features, and areas of higher flood risk. Landscape planting, habitat management areas and recreational enhancements form a further layer of the Scheme, providing integration, mitigation and biodiversity value. A full description of the Scheme components and their construction, operation, maintenance and decommissioning is provided in **ES Chapter 2: The Scheme** (Doc Ref 6.1), with the evolution of the design in response to the differing requirements and constraints of these components explained in Section 6 (Design Evolution) of the DAD.
	Have digital techniques, including algorithms and AI been used in design development? If so, explain the tools and data used.	A range of standard digital techniques have been used to analyse and assess the Site as part of the iterative design and EIA process. This has included the use of digital mapping tools (principally ESRI GIS Software) to support the spatial analysis and environmental assessment, alongside PLS-CADD, which was used as an engineering-led tool for the design, analysis and technical feasibility assessment of the OHL. Together, these platforms supported the visualisation, coordination and refinement of the Scheme during design evolution.

Issue	Considerations	Meridian Solar Farm Response
		No AI or algorithm-based design systems were used during the development of the Scheme.
	Is there a coherent narrative of how the approach to design has evolved?	Yes—**Section 6** provides a stage-by-stage narrative aligned to consultations, updated surveys/modelling, and coordination with NGET G2W/WMEL.
	Where are design outcomes set out?	**Section 7** synthesises outcomes against each principle, with legal securing in **Section 8** via DCO documents.
	Will additional value beyond the site boundary be incorporated?	Application of the Design Principles set out in **Section 4** has guided the Applicant to consider and deliver additional value beyond the Order Limits where practicable. The design evolution described in **Section 6** demonstrates how the Scheme has responded to these principles, creating environmental and community benefits that extent outside the site boundary. Examples of where the Scheme will secure value beyond the Order Limits include: • Enhanced recreational connectivity, through the provision of a new permissive path linking existing PRoW between Queen's Bank and Shepeau Stow. This route will improve access to the wider countryside and strengthen connection between communities adjacent to the Solar Development Area (Principle 3).

Issue	Considerations	Meridian Solar Farm Response
		• Landscape and ecological enhancements that contribute to wider habitat connectivity beyond the Order Limits. Over 170 ha of habitat management areas, including species-rich grassland and farmland bird mitigation areas, will strengthen ecological corridors and improve foraging and nesting conditions for species such as skylark, benefiting Local Wildlife Sites and surrounding farmland habitats (Principles 8 and 9). • Reduced flood risk and improved water management, with strategy embedded design measures – such as buffers from drains, Sustainable Drainage Systems and flood-resilient infrastructure heights – supporting wider catchment-scale resilience and water quality improvements across the fenland drainage network (Principle 7). Together, these measures demonstrate that the Scheme has been designed not only to minimise its impacts but to deliver meaningful enhancements to the wider environment, local communities and regional infrastructure networks beyond the Order Limits.
Independent design review	Has the design development been the subject of an independent design review?	The design has not been subject to independent design review. The Applicant has undertaken a robust, policy-led approach to design based on the criteria for good design

Issue	Considerations	Meridian Solar Farm Response
		set out in NPS EN-1 and supported by multiple phases of consultation, technical assessment and stakeholder engagement. Pre-application consultation and engagement have been central to the evolution of the Scheme and have enabled continuous refinement of the design, including the development of the Design Vision and Design Principles that underpin the overall approach to good design. Alongside two stages of formal consultation, the Applicant has carried out an extensive programme of targeted engagement to obtain feedback on design development. This has included ongoing meetings and technical discussions with a range of stakeholders, including but not limited to the host authorities, statutory undertakers, the Internal Drainage Boards, the Environment Agency, Natural England, National Grid Electricity Transmission, and local community representatives. Consultation feedback directly shaped key design decisions – for example refinement of access arrangements, removal or re-siting of infrastructure near residential areas, avoidance of sensitive heritage features, and the development of ecological and landscape enhancements. The Applicant has also undertaken iterative engagement with specialist officers and topic-specific consultees

Issue	Considerations	Meridian Solar Farm Response
		during the pre-application phase to test and validate the evolving design. This includes detailed discussions on flood risk, OHL routing, landscape and visual mitigation, archaeology, transport and access, and biodiversity enhancements. In light of the scale of consultation, technical engagement and the extensive discipline-led review of design choices, the Applicant did not commission a separate design review. This is consistent with the approach taken by other consented NSIP-scale solar projects, where design quality is primarily assured through robust adherence to national policy, application of clear Design Principles, thorough environmental assessment, and meaningful engagement with statutory consultees and local stakeholders.
	If so, what were the main comments and how has the design responded to them?	N/A
	Is it the intention to include design reviews post-consent? If so, how are these secured?	Given this extensive engagement and the application of the Design Principles set out in Section 4 of the DAD, the Applicant does not intend to undertake a separate independent design review post-consent. Instead, good design outcomes will be secured through the Requirements in the Draft DCO and the Control Documents submitted Control Documents submitted with the DCO application, including the **Design Parameters** and

Issue	Considerations	Meridian Solar Farm Response
		suite of certified management plans. Detailed design will be subject to approval by the relevant planning authority, with engagement with statutory bodies and other key stakeholders undertaken as part of the discharge of relevant requirements, alongside ongoing engagement through the Community Liaison Group.
Delivery	How will the final design be delivered? Will there be a design management plan, a design guide or a design code? If not, why are they not required?	Delivery is through DCO Requirements and certified Control Documents (e.g., Design Parameters, Works Plans, Outline Landscape & Ecology Management Plan, topic outlines) referenced in **Section 8**. Requirement(s) will oblige detailed design to accord with the Design Parameters and relevant certified documents before commencement.
	Is there a design consultation plan to engage the community following consent of the DCO?	The Applicant has embedded ongoing community engagement into the delivery of the Scheme. Requirement 4 (Community Liaison Group) of the **Draft DCO** (Doc Ref. 3.1) provides that, prior to commencement, the undertaker must establish a Community Liaison Group (CLG), with terms of reference agreed with the relevant planning authority. The CLG will facilitate regular liaison between representatives of communities living in the vicinity of the Order Limits and other relevant organisations in relation to the construction of the authorised development. The CLG must be established before construction begins and will operate throughout the construction period until final commissioning, unless

Issue	Considerations	Meridian Solar Farm Response
		otherwise agreed. This mechanism will ensure that communities remain informed and engaged as the detailed design is finalised and implemented through construction, allowing concerns to be raised, information to be shared, and updates on planning, access and mitigation to be provided. The requirement provides a clear and secured framework for continued engagement beyond DCO consent and ensures that community feedback continues to influence the delivery of the Scheme.
	Is there an agreed process for post-consent decisions with local planning authorities and others, where required?	Yes. The **Draft DCO** (Doc Ref. 6.1) sets out a clear and secured process for post-consent decisions through the Requirements, which establish submission and approval gateways with the relevant planning authority (and other statutory bodies where specified) prior to commencement of works. These Requirements ensure that detailed design, construction and management plans are approved by the appropriate authority and are delivered in accordance with the certified control documents, which fix the Scheme's design parameters and mitigation so that no materially new or different environmental effects can arise. This provides a consistent and transparent framework for all post-consent decisions.
Place	How is placemaking being addressed?	Placemaking has been addressed through the application of the Design Principles set out within **Section 4** of this document. The principles are based on an understanding of the Scheme's local context, the sensitive receptors it

Issue	Considerations	Meridian Solar Farm Response
		may affect and the potential benefits and outcomes that the Scheme can deliver. Some examples of how the Scheme has addressed placemaking via the Design Principles is set out below: - The Scheme design has incorporated appropriate buffers from local settlements and residential properties and specified landscape planting to filter views of the Solar Development Area. For instance, offsets and, where appropriate, advance landscape planting has been specified for Cloot House, Martins Farm, dwellings off Hull's Drove, Queens Bank and Langary Gate Road. (Principle 2) - Existing vegetation patterns have been maintained with loss of existing vegetation minimised and offsets from existing vegetation specified. Buffers have also been maintained from on-site Scheduled Monuments and drains / ditches that cross the Site. New landscaping has been specified to integrate with the existing vegetation corridors and with main drains flowing through the Site to improve ecological and recreational connectivity (Principles 2 & 8).
	How will this be a distinctive place and how will the community benefit from it?	The Scheme design responds to the distinctive and unique local character of the Site and provides benefits to the local community via an enhanced green infrastructure network. For example:

Issue	Considerations	Meridian Solar Farm Response
		- Across the Solar Development Area, the Scheme will provide over 100ha of species rich grassland, approximately 650ha of semi-improved grassland and over 30km of new trees and shrub planting. Over 170ha of land would be set aside for habitat management. The Scheme would provide Biodiversity Net Gain as set out within the **Biodiversity Net Gain Report** (Doc Ref. 7.9); - Provide a new permissive path (approximately 2km in length), connecting into existing PRoW between Queens Bank and Shepeau Stow and following the boundary of the Settlement W of Cate's Cove Corner Scheduled Monument. The permissive path would be suitable for pedestrians, cyclists and horse riders and provide information boards on the historic and natural environment.
	Describe what the quality of place outcome will be, how this relates to the vision and how it will be secured?	The Scheme will deliver beneficial place outcomes in accordance with the Design Vision and Design Principles set out within **Section 4** of this document. The Scheme enhances biodiversity and recreational access and opens up the on-site Scheduled Monuments to the local community. These measures are secured from the requirements of the **Draft DCO** (Doc Ref. 3.1) and the **OLEMP** (Doc Ref. 7.16).
Integrated design approach	Explain how an integrated, holistic approach to the project's design will be achieved.	An integrated, holistic design approach is achieved through the consistent application of the design vision and

Issue	Considerations	Meridian Solar Farm Response
		Design Principles, which consider all key elements of the Scheme – technical, environmental, landscape, heritage, access, flood risk and community factors – together rather than in isolation. The design has been shaped through iterative, multidisciplinary working, where decisions in one area (such as panel heights, access routing or substation siting) have been made with regard to their implications for others. This ensures that all components of the Solar Development Area, Inter-Array Connections and Grid Connection Route form a coherent and coordinated whole, aligned with the vision and secured through the design parameters and control documents in the **Draft DCO** (Doc Ref 3.1).
	Where is it shown in the documentation? Is there a masterplan?	The Applicant's integrated design approach is set out in the **Design Approach Document** (Doc Ref. 7.3). The DAD explains how good design has been embedded via the Design Principles in **Section 4** and applied throughout the Scheme. **Section 6** demonstrates how these principles guided decisions on site layout, infrastructure placement and mitigation design through the iterative design process. **ES Figure 2-2: Illustrative Solar Development Area and Inter-Array Connections Layout Plan** (Doc Ref. 6.2) and **ES Figure 2-4: Illustrative Grid Connection Route Layout Plan** (Doc Ref. 6.2) illustrate the anticipated design and spatial configuration of the Scheme and the relationship with the Order Limits and Limits of Deviation, within

Issue	Considerations	Meridian Solar Farm Response
		which the detailed design will be finalised at post-consent stage. In addition, the **OLEMP** (Doc Ref. 7.16) includes an outline landscape masterplan.
	How will this be secured?	The design approach and resulting commitments will be secured through the control documents described in **Section 7**. The detailed design approval process—including approval of layout, appearance and landscaping—will be controlled via Requirements in Schedule 2 of the **draft DCO** (Doc Ref 3.1), which require the undertaker to submit detailed design information for approval before construction. These Requirements ensure the final design remains within the assessed design parameters and accords with the design vision, principles and commitments documented in the DAD and its associated control documents. Accordingly, the integrated design approach is secured through: • the **Design Parameters** (Doc Ref 7.4) as a certified document, which incorporates the principles from the DAD; • the Requirements in the DCO; and • the wider suite of control documents (e.g., landscape, ecology, construction management plans) that are

Issue	Considerations	Meridian Solar Farm Response
		approved and enforced through the DCO discharge process.
National Policy Statements (NPSs)	How have the requirements for good design in the relevant NPS (or NPSs) been met?	**Section 2** summarises EN-1/EN-3/EN-5 requirements. EN-5 presumption for OHL is addressed (technology choice with targeted UGC at an existing 132 kV crossing), with Holford/Horlock compliance narratives in **Appendices 2–3**. Design evolution shows mitigation hierarchy per EN-1 4.7. (**Sections 2, 6**, **Appendices 2–3**).
Design Principles	Set out the good design principles being applied to the project.	**Section 4.3** lists Principles 1–10 (technical compliance / safety; landscape integration; recreation / access; responsible construction / operation / decom.; heritage; agricultural productivity; water; alignment to field boundaries / vegetation; biodiversity & 10%+ BNG; compatibility with other developments). **Section 7** evidences delivery.
	Are the design principles structured or grouped logically?	Yes. The Design Principles (**Section 4**) are logically structured, beginning with the high-level design vision and flowing through functional/technical requirements, to environmental effect considerations. Their organisation provides a coherent framework for guiding design decisions.
	How will they be developed prior to consent?	The Design Principles will continue to be developed prior to consent through the iterative design process described in **Section 5**. As technical assessments, consultation feedback and environmental evaluation progress, the

Issue	Considerations	Meridian Solar Farm Response
		principles are translated into design parameters that define the Scheme's assessable limits (e.g., layout, infrastructure placement, mitigation envelope). The **Design Parameters** (Doc Ref. 7.4) have been developed for the project and embedded into the accompanying key control documents, ensuring that there are clear, enforceable details available to be implemented at detailed design stage.
	How will they be illustrated and secured?	The **DAD** (Doc Ref. 7.3) demonstrates how Design Principles have been used to guide decision making principles throughout the evolution of the Scheme design. **Section 6** explains how the principles have been applied to shape the design, while **Section 7** identifies the resulting design outputs and commitments. These outputs are illustrated through the indicative layouts, design evolution diagrams and design parameters embedded across the submitted application documents. Illustration and securing of the Design Principles is achieved through the suite of 'documents and plans to be certified' within Schedule 11 of the **Draft DCO** (Doc Ref. 3.1). These certified documents include **Works Plans** (Doc Ref 2.3), **Design Parameters** (Doc Ref. 7.5), and the relevant Management Plans (such as the **OLEMP** (Doc Ref. 7.16).

Issue	Considerations	Meridian Solar Farm Response
		Should development consent be granted, the Scheme must be brought forward in accordance with these certified documents, ensuring the final detailed design reflects the Design Principles and remains within the assessed design envelope. This approach both secures the intended outcomes of the Design Principles and ensures that the Scheme remains consistent with the conclusions of the **Environmental Statement** (Doc Ref. 6.1), while still allowing appropriate flexibility to accommodate detailed design refinement within the approved parameters.
National Infrastructure Commission (NIC) 'principles'	Is there a response to the NIC's four principles of good design?	The Applicant's response to the NIC's four principles of good design—Climate, People, Places and Value—is set out in **Section 5 (Design Approach)** of the **Design Approach Document** (Doc Ref. 7.3). That section explains how the Scheme's Design Vision and project-specific Design Principles collectively address the NIC design framework, ensuring that the design is climate-resilient, people-focused, place-sensitive and capable of delivering long-term value. **Section 5** also identifies the project-level Design Principles that have been adopted for Meridian, tailored to the Scheme's landscape, technical and environmental context. These principles translate the NIC principles into applicable, site-specific design guidance for the Solar

Issue	Considerations	Meridian Solar Farm Response
		Development Area, Inter-Array Connections and Grid Connection Route. The process by which these Design Principles were developed and embedded—through iterative technical assessment, environmental evaluation, constraints mapping, and engagement with consultees, landowners and local communities—is also described fully in **Section 5**. This section outlines how the principles have shaped design evolution, informed the development of design parameters, and been incorporated into the certified documents that secure the Scheme's delivery. Accordingly, all matters relating to: • the NIC's four principles, • the Scheme's adopted Design Principles, and • the design-development process are addressed comprehensively within **Section 5**.
	If not, what design principles have been adopted?	N/a
	What process has been used to develop and embed project level design principles?	The **DAD** (Doc Ref. 7.3) demonstrates that the design of the Scheme has been developed in accordance with a clear and robust design framework informed by the criteria for good design set out in EN-1. Central to this framework is the adoption of project-specific Design

Issue	Considerations	Meridian Solar Farm Response
		Principles that have guided decision-making throughout the iterative development of the Scheme and ensured the consistent embedding of good-design outcomes. These Design Principles have been progressively refined during the design process. Their evolution has been informed by stakeholder engagement and landowner discussions, consultation feedback, and the findings of technical studies and environmental assessments. The principles have been used to steer and influence the design in a structured and balanced way: reducing or avoiding adverse effects wherever practicable; maximising opportunities for enhancement, including landscape, biodiversity and recreational benefits; and ensuring an appropriate balance between design flexibility and design certainty within the DCO application. In this way, they provide a consistent thread linking the Scheme’s vision, its design evolution, and the design parameters and commitments that ultimately secure its delivery.

Appendix 2 Compliance with the Holford Rules

A.2.1 Guidelines on OHL routing were first introduced by Lord William Holford in 1959. Since their introduction, these guidelines have been reviewed and are widely recognised as best practice in the design of OHL infrastructure and are known as the Holford Rules. The Holford Rules are reflected in national policy for electricity networks, including NPS EN-5.

A.2.2 The overhead line elements of the Scheme comprise both:

A.1.2.1 the 400kV Grid Connection Route to the proposed Weston Marsh B substation; and

A.1.2.2 the 132kV overhead Inter-Array connection between Land Parcels C and D.

A.2.3 Both elements form part of the authorised development and have therefore been developed through an iterative constraints-led process consistent with the Holford rules, NPS EN-5, and established national OHL routing practice. The design balances landscape, heritage, ecology, flood risk, settlement pattern, safety clearances and coordinated planning with the proposed NGET G2W project.

A.2.4 Across both the Grid Connection Route and the overhead Inter-Array Connection, the routing has sought to:

- avoid designated landscapes and the highest amenity areas;
- avoid or minimises interaction with sensitive receptors such as Wykeham Chapel Scheduled Monument;
- remain as direct as reasonably practicable while reducing angle towers;
- avoid creating new, dispersed “wirescape” by coordinating with existing and proposed major infrastructure corridors;
- maintain appropriate standoff from settlements, including Weston, Spalding and the ribbon development at Weston Hills; and
- minimise visual and electromagnetic convergence.

A.2.5 This section provides the narrative on how the proposed design of the Grid Connection Route and the overhead Inter=Array Connection complies with each of the seven Holford Rules.

- Rule 1 – avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the line in the first place, even if total mileage is somewhat increased in consequence
  - The Grid Connection Route and the overhead Inter-Array Connection avoid National Parks, National Landscapes, and national or international ecological designations. No such designations lie within, or immediately adjacent to, the route corridor.
- Rule 2 – avoid smaller areas of high amenity value or scientific interest by deviation, provided this can be done without using too many angle towers, i.e. the bigger structures which are used when lines change direction
  - The design incorporates deviations where reasonably practicable to avoid localised areas of higher sensitivity. This includes:
  - Avoidance of pylons within the field directly adjacent to Wykeham Chapel Scheduled Monument, responding to its heritage sensitivity.
  - Consideration of the local landscape pattern and heritage context, ensuring the route remains outside the most sensitive fields even where this requires modest localised deviation.
  - Coordination near the A151, with the route designed to enable alignment with other emerging infrastructure where practicable and to avoid multiple dispersed corridors.
  - In applying this rule, the routing team has remained mindful of avoiding excessive use of angle towers, ensuring deviations are proportionate and technically justified.
- Rule 3 – other things being equal, choose the most direct line, with no sharp changes of direction and thus with fewer angle towers
  - Both the Grid Connection Route and the overhead Inter-Array Connection follow alignments that are as direct as reasonably practical within the context of multiple environmental, technical and stakeholder constraints. Angle towers have been limited to the minimum necessary, with a preference for long straight runs.
  - Straightening opportunities were maximised during the iterative design stages, ensuring compliance with Rule 3 while still honouring Rules 1 and 2.
- Rule 4 – choose tree and hill backgrounds in preference to sky backgrounds wherever possible. When a line has to cross a ridge, secure this opaque

background as long as possible, cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees

  - The landscape across both route corridors is predominantly flat fenland, without hills, ridges, or substantial tree backdrops capable of providing effective "back-clothing" of OHL towers.
  - As such, the opportunity to apply Rule 4 is limited by the baseline landscape character. The absence of elevated landforms means neither the Grid Connection Route nor the overhead Inter-Array Connection crosses ridges or skyline features.

- Rule 5 – prefer moderately open valleys with medium or moderate levels of tree cover where the apparent height of towers will be reduced, and views of the line will be broken by trees
  - The routing areas do not contain valleys or undulating landforms that could visually contain the OHL. The fenland setting comprises open, flat agricultural expanses with sporadic tree belts.
  - Where feasible, both overhead routes have been positioned to take advantage of existing local tree belts and block plantings to provide intermittent visual filtering, although the applicability of Rule 5 remains inherently limited by regional topography.
- Rule 6 – where country is flat and sparsely planted, and unless specifically preferred otherwise by relevant stakeholders, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concentration of lines or 'wirescape'
  - The open and sparsely planted fenland landscape requires careful management of visual clutter. For both overhead elements of the Scheme:
    - existing DNO OHLs and underground assets were mapped and assessed during routing;
    - Crossings of existing electricity infrastructure were designed to be perpendicular or near- perpendicular wherever practicable, minimising prolonged visual convergence;
    - Unnecessary parallel running with smaller distribution lines is avoided.

  - A key consideration under Rule 6 is coordination with National Grid Electricity Transmission's proposed G2W project. In this context, a broadly parallel arrangement between the two 400 kV routes represents a more coherent design response than dispersing major transmission infrastructure across separate corridors. Containing large-scale transmission infrastructure within a defined corridor reduces landscape fragmentation and limits the spread of perceived wirescape.
  - The overhead Inter-Array Connection, by contrast, performs a localised functional role between parcels and has been designed to remain visually subordinate in scale and extent, avoiding unnecessary interaction with wider transmission infrastructure.
- Rule 7 – approach urban areas through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, carefully assess the comparative costs of undergrounding
  - There are no industrial zones or major urban areas within the approach to the substation. However, residential context has been a key design driver for both overhead routes. Compliance with Rule 7 is demonstrated through:
    - Routing away from Weston (to the west) and Spalding (to the east), ensuring that neither settlement lies within the immediate viewshed of the Grid Connection Route.
    - Maintaining standoff from dispersed rural properties, including generally equidistant routing where isolated dwellings exist on both sides of a corridor.
    - Providing additional standoff from ribbon development at Weston Hills, informed by consultation and design evolution.
    - Consideration of undergrounding at sensitive interfaces, including at the substation connection, assessed against technical, environmental and cost constraints.

A.2.6 Through a constraints-led, consultation-responsive design process, coordinated with the relevant infrastructure providers, the overhead elements of the Scheme – including both the 400kV Grid Connection Route and the 132kV overhead Inter-Array Connection - accord with the Holford Rules and the principles of NPS EN-5. The alignment avoids high-amenity areas, protected designated heritage assets, limits visual convergence, coordinates sensibly with the proposed G2W project, and maintains appropriate separation from settlements and rural residential receptors.

Appendix 3 Compliance with the Horlock Rules

A.3.1 The Horlock Rules – guidelines for the design and siting of substations – were established by National Grid in 2009 in pursuance of its duties under Schedule 9 of the Electricity Act 1989. These rules are reflected in national policy for electricity networks, including in NPS EN-5.

A.3.2 This section explains how the siting and design of the substations complies with the Horlock Rules.

- Consider environmental issues from the earliest stage to balance the technical benefits and capital cost requirements for new developments against the consequential environmental effects in order to keep adverse effects to a reasonably practicable minimum
  - Environmental constraints and opportunities have been considered from the outset of the design process, including all stages of site selection and refinement for the substations and BESS compounds. Survey results, flood modelling, landscape and visual assessment, ecological appraisal, and heritage considerations have all directly influenced the evolution of the substation locations and configurations. The proposed application layout represents the outcome of an iterative process seeking to keep adverse effects as low as reasonably practicable while maintaining deliverability and compliance with technical requirements.
- Seek to avoid altogether internationally and nationally designated areas of the highest amenity, cultural or scientific value by the overall planning of the system connections
  - No internationally or nationally designated sites are directly affected by the siting of the substations. Design iterations ensured that all On-Site Substation Compounds are located outside the boundaries and influence zones of Natura 2000 sites, SSSIs, scheduled monuments, or other nationally protected designations.
- Protect as far as reasonably practicable areas of local amenity value, important existing habitats and landscape features including ancient woodland, historic hedgerows, surface and ground water sources and nature conservation areas
  - All relevant environmental and technical constraints have been considered and balanced in the siting of the substations. No ancient

woodland, historic hedgerows or designated nature conservation areas will be directly impacted by the proposed substations. All On-Site Substation Compounds are located on agricultural land, and no removal of existing vegetation is required within the compound footprints.

  - Flood risk has significantly influenced the design and siting, ensuring the substations remain outside Flood Zones 2 and 3 of the Postland and South Holland Main Drain Catchments. Residual flood risk associated with the River Welland has been addressed through embedded flood resilience measures. A minimum 10m buffer has been maintained from all existing watercourses, including drains and ditches.

- Take advantage of the screening provided by land form and existing features and the potential use of site layout and levels to keep intrusion into surrounding areas to a reasonably practicable minimum
  - Given the predominantly flat fenland setting, opportunities to use landform or existing screening to reduce visual intrusion are limited. However, the proposed mitigation planting and landscape strategy has been designed to break views and soften the presence of substation structures. Mitigation planting ensures there are no unobstructed views of the On-Site Substation Compounds from residential properties in the surrounding area.
- Keep the visual, noise and other environmental effects to a reasonably practicable minimum
  - Siting specifically aimed to reduce the potential for operational noise effects by considering the proximity of the substations to residential and other sensitive receptors. All On-Site Substation Compounds are located over 350m from the nearest residential properties. Where assessments have identified potential for any significant environmental effects (including noise, visual or ecological), appropriate mitigation has been developed and incorporated into the design to keep effects as low as reasonably practicable.
- Consider the land use effects of the proposal when planning the siting of substations or extensions

  Land use implications have been assessed and balanced alongside other environmental and technical constraints. All three 132kV On-Site Substation Compound are located on agricultural land classified as

Grade 3b, which is not considered to be BMV. While the 400kV On-Site Substation Compound is sited on BMV land (Grades 1 and Grade 3a), alternative siting options were constrained by flood risk, electrical layout requirements, access and environmental sensitivities. The selected location is considered the most appropriate and deliverable option within the overall land use and environmental context.

- Consider the options available for terminal towers, equipment, buildings and ancillary development appropriate to individual locations, seeking to keep effects to a reasonably practicable minimum
    - Terminal tower options have been considered in the Scheme design. All equipment, structures and buildings have been designed within the maximum parameter envelopes for the Scheme. These parameters have informed the landscape, visual and environmental mitigation, ensuring that the resulting effects remain as low as reasonably practicable.
- Use space effectively to limit the area required for development consistent with appropriate mitigation measures and to minimise the adverse effects on existing land use and rights of way, whilst also having regard to future extension of the substation
    - Sufficient flexibility is built into the maximum parameters to allow detailed design to incorporate all required equipment without unnecessary land take. No future expansion of the On-Site Substation Compounds is anticipated. All compounds have been positioned away from PRoWs, with mitigation planting designed to screen so that no unscreened views are available from PRoWs within the surrounding area.
- Make the design of access roads, perimeter fencing, earth-shaping, planting and ancillary development an integral part of the site layout and design, so as to fit in with the surroundings
    - All associated works, including access arrangements, fencing, earthworks and landscaping, have been incorporated into the overall site layout and parameter plans. These elements have been designed to integrate with the surrounding landscape and reflect the embedded mitigation principles developed through the iterative design process.

    - In open landscape especially, high voltage line entries should be kept, as far as possible, visually separate from low voltage lines and other overhead lines so as to avoid a confusing appearance
    - The line entries for both the 400kV Grid Connection OHL and the 132kV Inter-Array Connection OHL have been designed to ensure clear separation. No low voltage or other OHLs are located in proximity to the substation entries that would result in a visual convergence or a confusing appearance.
- Study the inter-relationship between towers and substation structures and background and foreground features so as to reduce the prominence of structures from main viewpoints. Where practicable the exposure of terminal towers on prominent ridges should be minimised by siting towers against a background of trees rather than open skylines
    - The fenland study area contains no prominent ridges, elevated landforms or woodland blocks that could be used to backcloth terminal towers. As such, opportunities for landscape integration through landform are limited. Nonetheless, the proposed planting strategy, set-back distances, and the careful arrangement of structures within compounds all contribute to reducing the prominence of the substations in key views.

A.3.3 Overall, the proposed siting and design of the substations comply with the Horlock Rules and represent a balanced response to technical, environmental and land use considerations.