

Proposed Mallard Pass Solar Development Essendine, Rutland

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Landscape & Visual Review

prepared by

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for

Mallard Pass Action Group and CPRE

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1. Executive Summary

- 1.1 I am an independent chartered landscape architect specialising in landscape, environmental and colour assessment / planning, masterplanning, and design, with over 40 years' experience in dealing with schemes of a similar nature and scale to that of the proposed development, including Nationally-Significant Infrastructure Projects (NSIP), as is the case here. In January 2023, I was commissioned jointly by a group of local residents (Mallard Pass Action Group), and CPRE, to advise on landscape and visual matters in relation to the proposed development. The findings of the review will be submitted as part of the Group's representation to the Examining Authority.
- 1.2 The main aims of this review were to determine a) whether the Applicant's submission – especially the Landscape and Visual Impact Assessment (LVIA) – identified and addressed the key landscape-related issues; b) whether it provided sufficient evidence-based and objectively-quantified information to ensure that informed and balanced judgements about levels of landscape, visual and other effects could be made, and on which decision-makers could confidently rely; and c) whether what is proposed was likely to comply with the requirements of relevant landscape-related planning policy and guidance.
- 1.3 In order to achieve the above aims, I carried out an independent assessment of landscape and visual effects, in accordance with published guidance, and undertook in-depth analysis and review of the LVIA and other information. The first stages of the process entailed gaining a full understanding of the background to, and nature of, the proposals; and carrying out desktop and field studies to establish the existing landscape and visual baseline situation. In this, I was assisted by people from the local communities.
- 1.4 From plans and documents, **it is very difficult to comprehend the sheer size and scale of the proposed development.** The main site measures almost **8km from west to east**, and at its widest point is c. **5.5km from north to south**, with solar arrays / ancillary infrastructure occupying the majority of those extents. The area of the Order limits is c. **852ha**, and the Solar PV area is c. **420ha**. To put that into the context of the wider landscape, it is worth noting that **the whole of the settlement of Stamford, including its green spaces, covers c. 515ha.**
- 1.5 The Applicant's LVIA concluded that **the proposed development would give rise to significant adverse effects on the landscape character of the site, and on views on, or in close proximity to, the site**, but that beyond, levels would be relatively low. However, they also concluded that these levels of effects would only be experienced until the proposed planting grew tall enough to screen the development from view, when effects would no longer be significant.
- 1.6 I agree that there would be significant adverse effects on the landscape character of the site, and on views on, or in close proximity to, the site; however, i) levels of effects on character cannot be mitigated by screen planting, and ii) I do not agree that levels of effects beyond the site would be low. The reasons for the differences in opinion are mainly due to there being **fundamental errors and flaws in the LVIA's method and process**, in particular, the **lack of baseline information, lack of analysis of the information provided, erroneous / unfounded assumptions, and lack of transparency in the reasons for judgements and conclusions.**
- 1.7 My own assessment concluded that **the proposed development would give rise to significant adverse effects on the landscape character of both the site and the wider landscapes, and almost certainly, on views at viewpoints lying several kilometres from the site.** It would also **significantly adversely affect people's health and wellbeing, and the quality of their lives.**

- 1.8 It must also be noted that **the proposed development would not deliver any landscape or visual benefits or enhancements**, as the LVIA confirms.
- 1.9 For these and other reasons, in my opinion, the proposed development **would not comply with the requirements of the relevant landscape-related policies and guidance**.

2. Introduction

The first part of this section sets out a summary of my involvement in and the background to the proposed development, briefly noting the relevant planning and decision-making context. The second part explains the purpose of and main aims of my review, and describes the approach I adopted and methods I used during the commission. The third part sets out my relevant experience.

2.1 Background Summary

- 2.1.1 In January 2023, I was commissioned jointly by a group of local residents (Mallard Pass Action Group (MPAG)) and CPRE (the countryside charity¹) to advise on landscape and visual matters in relation to an application for a Development Consent Order (DCO) to allow the construction, operation (including maintenance), and decommissioning of a ground-mounted solar power station² (known as Mallard Pass Solar Farm (MPSF)) on approximately 852 hectares (ha) of land ('the site') centred in and around the village of Essendine in the county of Rutland, East Midlands (although one third of the site is in Lincolnshire). The Applicant is Mallard Pass Solar Farm Ltd.
- 2.1.2 The proposed development, the site and the contextual landscapes are described where relevant in the sections below. The methods used in undertaking this review, the various issues identified, and the conclusions drawn are also explained.
- 2.1.3 In terms of the background to the scheme, in summary, a DCO is required because the proposals have been categorised as a NSIP under the Planning Act 2008, due to their total capacity exceeding 50 megawatts (MW)³. In this case, capacity would be c. 350MW,
- 2.1.4 The relevant planning authorities are Rutland County Council, (RCC) South Kesteven District Council (SKDC) and Lincolnshire County Council (LCC), but DCOs must be submitted to and determined by the Secretary of State (SoS) for Energy, Security and Net Zero.
- 2.1.5 Regarding the relevant planning policy context, again in summary, today, national policy for NSIPs / major energy infrastructure is set out in a suite of *Overarching National Policy Statements* (NPSs). The current versions of the NPSs were designated in July 2011, but revised drafts were issued in September 2021 and March 2023, are currently undergoing consultation (closing date 23rd June 2023, extended from 25th May 2023⁴). The NPSs which relate to energy set out the Government's policy for the delivery of energy infrastructure, and provide the legal framework for relevant planning decisions. Solar power stations were not included in the 2011 NPSs, but the draft NPS for renewable energy infrastructure covers solar farms at the scale of nationally-significant infrastructure.
- 2.1.6 In designating an NPS, the Planning Act 2008 requires the SoS to have regard to the desirability of good design. Of relevance to landscape and visual matters in particular is the *Overarching National Policy Statement for Energy* (EN-1): for example, both the 2011 and 2023 versions emphasise that whilst aesthetics and functionality are equally important

¹ <https://www.cpre.org.uk/>

² Solar developments of this type are categorised as 'power stations': the Planning Act 2008 describes power stations as 'generating stations'.

³ For more detailed information about NSIPs, DCOs and other relevant procedures / matters see for example *Planning for Nationally Significant Infrastructure Projects Briefing Paper Number 06881, 17 July 2017* by Louise Smith <https://researchbriefings.files.parliament.uk/documents/SN06881/SN06881.pdf> and the Government's NSIP website <https://infrastructure.planninginspectorate.gov.uk/>

⁴ An emerging NPS can carry some weight for decision takers in the development consent process. The amount of weight given will depend on how far along the process the NPS is at and how much consultation has taken place.

considerations in situations such as these, the development should contribute to the quality of the area within which it is located.

- 2.1.7 Para. 4.6.2 of the March 2023 draft of EN-1 states, 'Applying "good design" to energy projects should produce sustainable infrastructure sensitive to place, including impacts on heritage, efficient in the use of 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. It is acknowledged, however 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**' (my emphasis).
- 2.1.8 The *National Policy Statement for Renewable Energy Infrastructure* (EN-3) is also very relevant, providing more detailed information about 'good' design in energy infrastructure. Importantly, paras. 3.10.13 - 14 of the March 2023 draft EN-3 state that '*Solar is a highly flexible technology and as such can be deployed on a wide variety of land types. While land type should not be a predominating factor in determining the suitability of the site location **applicants should, where possible, utilise previously developed land, brownfield land, contaminated land and industrial land. Where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land (avoiding the use of "Best and Most Versatile" agricultural land where possible)***' (my emphasis).
- 2.1.9 Also, nowadays, it is recognised that there is the potential for vast quantities of solar energy to be generated through panels installed on existing and future rooftops (and roads / railways), as opposed to taking up land which is valued for any number of reasons, not just food production.
- 2.1.10 The National Planning Policy Framework (NPPF) is another important consideration, since ultimately, the proposed development must comply with relevant national (and local / neighbourhood) policy and guidance. In July 2021, a revised version of the NPPF was published⁵, one of the overarching aims being to improve the quality of new development, along with that of the environment and people's lives at the same time. The revisions in part responded to the recommendations set out in the Building Better Building Beautiful Commission (BBBBC)'s January 2020 report *Living with Beauty*⁶, which advocates **asking for beauty, refusing ugliness, and promoting stewardship**.
- 2.1.11 The NPPF also emphasises the importance of new developments prioritising brownfield over greenfield land where possible. In addition, the Planning Practice Guidance (PPG) on renewable and low carbon energy notes that large-scale solar developments 'can have a negative impact on the rural environment'. It sets out the factors to be considered when deciding a planning application, and says that **large-scale solar developments should be focussed on previously-developed and non-agricultural land, provided that it is not of high environmental value**. Indeed, the importance of retaining – and increasing the provision of – healthy, productive agricultural land is now better understood by policy-makers, and is being treated as a priority.
- 2.1.12 During the course of planning and designing the proposed development, the Applicant carried out stakeholder and public consultation, and certain adjustments were made to the scheme. The DCO Application was submitted in December 2022 and was formally accepted for examination on December 22nd by the Planning Inspectorate (PINS). Registration of

⁵ The Department for Levelling Up, Housing and Communities held a consultation on reforms to national planning policy between 22nd December 2022 and 2nd March 2023, and it is likely that the next iteration of the NPPF will be published late-2023.

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/861832/Living_with_beauty_BBBBC_report.pdf

interested parties has taken place, and written representations to the Examining Authority (ExA) are expected to have to be submitted in the early summer of 2023. The examination process is likely to take many months; when concluded, the ExA will make its recommendation/s to the SoS, who will consider the recommendation/s and make the final decision.

- 2.1.13 MPAG was formed in December 2021, during the proposed development's Stage 1 consultation period. Initially, MPAG represented the interests of the communities considered likely to be most adversely affected by the proposed development (a total of eight villages). However, since then, I understand that the level of interest and concern has grown significantly, and MPAG currently represents the opinions of people in and around over twenty villages in the area, along with residents of the historic market town of Stamford. The findings of this review will be submitted as part of MPAG's representation to the ExA.

2.2 Method

- 2.2.1 Clearly, new development will almost always result in changes to the existing landscape and visual situation, which will affect landscape character, views and social amenity in some way. Professional judgements must be made about what and who would be affected, what the degree of change would be, and whether the change would be 'acceptable', in order to ensure properly-informed planning decisions.

- 2.2.2 Such judgements are based on a wide range of factors. At the outset, questions must be asked such as:

- What is there, and who sees it?
- How important / valuable is what is there, to whom, and why?
- Is what is there / are those who see it susceptible to the type of change proposed?
- What is the nature of the likely effects arising from what is proposed?
- How, and to what degree, will the proposed change affect what is there and those who see it?
- Is the degree of proposed change considered to be acceptable or not, especially in terms of whether it complies or conflicts with relevant planning policy and guidance?

- 2.2.3 The main aims of this review were therefore to determine whether the Applicant's submission satisfactorily answers the above questions, and, in particular:

- a) whether it identifies and addresses the key landscape-related issues;
- b) whether it provides sufficient evidence-based and objectively-quantified information to ensure that informed and balanced judgements about levels of landscape, visual and other effects can be made, and on which decision-makers can confidently rely; and
- c) whether what is proposed is likely to comply with the requirements of relevant landscape-related planning policy and guidance.

- 2.2.4 I concluded that in order to properly inform my review, it would be necessary for me to carry out an independent assessment of landscape and visual effects, in accordance with published guidance including *Guidance for Landscape and Visual Impact Assessment* Edition 3 ('GLVIA3').

- 2.2.5 The first stage of the process involved gaining an overview of the background to and nature of the proposals, and carrying out a preliminary review of the Applicant's submission. This was followed by a desktop study of the existing landscape and visual baseline situation (firstly, setting the study area boundary – see Section 3.2 below), and then visits to the site and

surrounding areas in order to verify and augment the desktop findings.

- 2.2.6 I also asked people from the local communities to carry out research and fieldwork to help inform the baseline studies and effects assessments, under my professional guidance. I often do this, not just because it helps keep costs down, but also, in my experience, local people usually know more about their own back-yards than anyone else, and are a mine of information. Furthermore, involvement in the studies helps engender a sense of responsibility and a deeper understanding of and respect for landscape and its value.
- 2.2.7 They used OS maps (1:25,000 and other scales) and marked them up with the information they gathered during desktop and on-the-ground studies, including:
- Key visitor attractions, recreational / community facilities, schools, shops, places of work etc.
 - Important recreational / daily commute connections between the site and the wider area.
 - Routes (along roads, byways open to all traffic (BOATs), bridleways, public / permissive footpaths) typically / frequently used by locals and visitors, i) in cars, ii) on bicycles, iii) on horseback, iv) on foot and v) by bus.
 - Public and residential viewpoints not included in the LVIA (especially those beyond the edge of the LVIA study area – see Section 5.4).
 - Highways constraints along the proposed construction route.
- 2.2.8 The various maps and plans that were used / produced by myself and the residents are available as separate documents (PDF files), in Appendix CT-A. For ease of reference, the list of maps and plans is set out below, and they are referred to in the report where relevant. Please note that whilst some of the plans are only to scale when printed at A0 size, most are legible at A2, some at A3. All are in colour.
- List of maps and plans in Appendix CT-A:**
- Plan A: OS Map 1:25,000 (to scale at A0)
- Plan B: Landscape Character (LC) Baseline (to scale at A0), with separate key.
- Plan C: Map 1 Routes Residents (to scale at A0) – see also accompanying text in separate documents Routes Map 1 Text pp. 1 - 3
- Plan D: Map 2 Routes Visitors (to scale at A0) – see also accompanying text in separate documents Routes Map 1 Text pp. 1 - 2
- Plan E: Routes VPs 1 (to scale at A0)
- Plan F: Routes VPs 2 (to scale at A0)
- Plan G: VPs Site and Surrounds (original plan 1:30,000 at A3, but marked up on A1 / A2 prints)
- Plan H: Scheme Elements and Access (not to scale, extract from 1:25,000 OS Plan A, marked up on A2 print)
- Plan I: Substation Aerial (superimposed on Google Earth to show location in wider context).
- 2.2.9 Once the preliminary baseline information had been gathered, it was analysed. Then, additional visits to the site and surrounding area were carried out, so as to verify and augment the information. From these exercises, a good understanding of the relevant key issues was gained, especially the landscape and visual receptors most likely to be affected by the proposals.
- 2.2.10 Having established '*what is there, and who sees it*', the next step was to determine '*how important / valuable is what is there, to whom, and why?*', and '*is what is there / are those who see it susceptible to, the type of change proposed?*'. The conclusions informed judgements

about levels of landscape and visual receptor sensitivity. The methods used for making these judgements are set out in GLVIA3, but are also summarised where relevant in the effects sections below.

- 2.2.11 Then, in order to understand *'the nature of the proposed change'*, I studied the relevant Application documents and plans, and noted which aspects of the project / which scheme elements and activities were likely to give rise to landscape and visual effects. I also noted what the nature and scale of the effects were likely to be, during each stage of the project, taking into account the proposed mitigation, enhancement and compensation measures.
- 2.2.12 Following this, I carried out a high-level technical assessment of landscape and visual effects (in accordance with GLVIA3), in order to help answer the question *'how, and to what degree, will the proposed change affect what is there and those who see it?'*
- 2.2.13 Having completed the assessment, I undertook a more in-depth analysis and review of the Applicant's information, especially the LVIA (referring to publications such as the Landscape Institute (LI)'s Technical Guidance Note (TGN) 1/20 (10 Jan 2020) *Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs)*).
- 2.2.14 Then, I compared the results of my own assessment with those of the Applicant's LVIA.
- 2.2.15 The final step was to draw conclusions about whether *'the degree of proposed change is considered to be acceptable or not, especially in terms of whether it complies or conflicts with relevant planning policy and guidance'*. The scope of this commission was limited by budgetary constraints, therefore it does not set out the full relevant policy / guidance context nor assess the proposals' compliance or otherwise with specific policy / guidance unless noted.
- 2.2.16 This report sets out the review and assessments' findings.

2.3 Relevant Experience

- 2.3.1 I am a chartered member of the Landscape Institute (CMLI), a Fellow of the Royal Society of Arts (FRSA), and a Member of the International Association for Landscape Ecology (MIALE). I specialise in landscape, environmental and colour assessment / planning, landscape history and archaeology, masterplanning, and design, in the UK and overseas, and have done so for over 40 years. I am also a Design Council Expert, and an author.
- 2.3.2 I have been instrumental in the promotion of the landscape-led and iterative approach to development, which has been adopted by local planning authorities and others. I was a contributor to the Landscape Institute (LI)'s *Guidance for Landscape and Visual Impact Assessment* 1st edition, and a reviewer of GLVIA3. I am a member of LI and Natural England working groups tasked with updating current guidance, and providing consultation responses such as to the revised National Planning Policy Framework (NPPF), the Government's *25 Year Environment Plan*, and the Agriculture Bill.
- 2.3.3 Since the 1980s, I have been responsible for the planning, design, co-ordination, management and implementation of many high-profile developments in the UK and overseas, working alongside architects such as Richard Rogers, Norman Foster and Terry Farrell.
- 2.3.4 I am regularly called as an expert witness for planning inquiries, giving evidence on behalf of appellants, defendants and Rule 6 Parties. I advise bodies responsible for National Parks and AONBs, and local planning authorities, producing guidance documents, carrying out character, sensitivity, capacity and effects assessments and reviewing planning applications for many different types of development including energy production, some of which are NSIPs.

- 2.3.5 Today, much of my work is in neighbourhood planning, helping communities develop a more in-depth and informed understanding of landscape and its value. In 2020 I was invited to speak about 'valued landscapes' at the Planning Inspectorate's Annual Training Event.

3. Baseline Landscape & Visual Situation

The first part of this section describes the location of the proposed development, providing an overview of its wider landscape context, and highlighting the key features and factors which are of relevance to the assessment of landscape, visual and other effects.

The second part describes the baseline character and visual / social amenity of the site and surrounding areas, focussing on the site's 'contextual' landscapes, ie those with which there is likely to be interinfluence and / or intervisibility with the proposed development. The most relevant landscape and visual receptors are noted.

This helps to answer the first of the questions posed in Section 2.2 above, *What is there, and who sees it?*

3.1 Introduction

- 3.1.1 LVIA Section 6.3 deals with the existing baseline landscape (and visual) situation. However, the information provided in the LVIA (and elsewhere in the Applicant's submission) is insufficient for a full understanding of the likely effects of a development of this scale and nature to be gained (see Section 5.3 below), so I carried out my own much more granular baseline studies.
- 3.1.2 For example, the Applicant's maps and plans show the site's location, but mainly within its immediate context, not that of the wider area. In fact, **the LVIA's study area boundary was only drawn c. 2km from the main site boundary**, which in my opinion is inadequate for a project of this nature and scale, and as a result, a great deal of relevant information was not included in the assessments (see study area boundary issue in Section 5.1 below).
- 3.1.3 For the purposes of this review, I used a 1:25,000 scale OS map to show the wider landscape context (Plan A in Appendix CT-A), the extent of which was up to 10km from the main site (or 'solar PV site', ie where the solar arrays and ancillary development are proposed, not the construction route or grid connection cable – see below), which I considered to represent the likely extent of effects in terms of interinfluence / intervisibility.
- 3.1.4 I marked up the map by hand to show the site boundary, and the location of the solar arrays and other proposed development areas (along with some of the key landscape and visual baseline information). This information can be made available to the ExA / others if required.

3.2 Project Location

- 3.2.1 The site is centred around the small village of Essendine, which lies on the Rutland – Lincolnshire county boundary. Approximately two-thirds of the site (c. 524ha) lies within Rutland, and one third (c. 327ha) is in Lincolnshire.
- 3.2.2 The town of Bourne lies c. 7.5km north east of Essendine / c. 5.8km from the main part of the site; Market Deeping town lies c. 8km south east of Essendine / c. 5.3km from the main part of the site; and Stamford town lies c. 4.5km south west of Essendine / c. 1.3km from the main part of the site (in 2021, *The Times* rated Stamford the 'Best Place to Live in the Midlands' – no doubt in great part due to its beautifully-preserved historic core: the town boasts over 600 listed buildings).

Stamford town centre February 2023



- 3.2.3 The nearest large settlement to the north west is probably Grantham, over 25km away. Peterborough lies c. 18km to the south east. Rutland Water lies c. 11km to the south west.
- 3.2.4 The main part of the site is within / on the boundaries of eight parishes (from north in a clockwise direction): i) Carlby; ii) Braceborough and Wilsthorpe; iii) Greatford; iv) Uffington; v) Essendine; vi) Ryhall; vii) Pickworth; and viii) Careby, Aunby and Holywell.
- 3.2.5 As well as through some of these, the proposed construction route (shown on some of the baseline plans in Appendix CT-A) would run through several other parishes, via the towns of Bourne and Market Deeping, and through / close to the villages of Great Casterton, Little Casterton, Ryhall, Essendine, Carlby, Toft, Thurlby, Baston, Langtoft, Northborough, and Glington.
- 3.2.6 The villages which are in very or relatively close proximity to the main site (up to c. 2 – 3km away) include (from north in a clockwise direction): Aunby, Careby, Witham on the Hill, Manthorpe, Carlby, Essendine, Braceborough, Greatford, Barholm, Uffington, Belmesthorpe, Ryhall, Little Casterton, Tolethorpe, Pickworth, Holywell, and Little Bytham.
- 3.2.7 According to MPAG, over twenty villages would be affected.
- 3.2.8 The A1 / Great North Road runs c. 6km south west of Essendine at its closest point, bypassing Stamford; the A15 runs c. 7km to the east, by-passing Market Deeping and Bourne. In between these, the A6121 runs north – south between Stamford and Bourne, and the A1175 runs east – west between Stamford and Market Deeping via Uffington. The nearest A-road to the north west is the A52 east of Grantham. The only other main route through the area is the B1176, which here runs between Stamford and Little Bytham via Ryhall; otherwise, the towns and villages are connected by a network of often narrow, lightly-trafficked country lanes.
- 3.2.9 The East Coast main line railway runs north west – south east through the region, between Grantham and Peterborough, passing through Essendine, and bisecting the site; however, many sections are in cutting and / or run through well-vegetated corridors, meaning that often the infrastructure and passing trains are screened from view – see photograph overleaf.

View from lane leading west from Carlby (east of railway), looking south west towards central western part of main site (Fields 5 – 16) (west of railway). Metal gantries just visible above vegetation on left side of photo



- 3.2.10 There are also several dismantled railways in the area: these are distinct features in the landscape due to the mature vegetation which now delineates sections of the routes, and some are now designated wildlife sites.
- 3.2.11 The corridor of one of the dismantled railways runs through the southern central section of the main site: this was the Stamford and Essendine Railway, which was built in 1856 to connect Stamford to the East Coast main line of the Great Northern Railway. The railways joined at Essendine, where a railway station was built in 1853. The Stamford and Essendine Railway and the station closed in 1959; the station building no longer exists, and is now the site of modern warehouses / units. The embankments of the section of the dismantled railway which run through the site are now designated as Local Wildlife Sites.
- 3.2.12 Another dismantled railway corridor – that of the Bourn and Essendine Railway – used to run between Essendine and Bourne via Braceborough: a section of this also cuts through the central part of the site, and one section forms one of the site's boundaries. The line closed in 1951.
- 3.2.13 Interestingly, I believe that the scheme name 'Mallard's Pass' comes from the fact that the world speed record for steam locomotives (125.88 mph) was achieved on the 3rd of July 1938 by LNER Class A4 4468 *Mallard*. According to Wikipedia, this took place 'on the slight downwards grade of Stoke Bank south of Grantham on the East Coast Main Line, the highest speed was recorded at milepost 90¼, between Little Bytham and Essendine [ie near the site's northern boundary]. It broke the German (DRG Class 05) 002's 1936 record of 124 mph (200.4 km/h)'.

Image from article by Sam Hewitt, Digital Editor of The Railway Hub



3.3 Character of Site and Surrounding Areas

- 3.3.1 The character of the site and surrounding areas is described in more detail in the Applicant's LVIA, and in the effects and other sections below where relevant; however, as noted above and discussed further in Section 5.1 below, the LVIA's study area boundary was only drawn c. 2km from the main site boundary, so much of the relevant information was not included. Also, the LVIA did not mention some of the natural and cultural assets, and landscape qualities, which exist within the 2km study area, and which are very relevant to the assessments of landscape effects.
- 3.3.2 Plan B in Appendix CT-A shows many of the designated / 'high value' landscape features identified with c. 10km of the Order limits. It was not originally intended for publication, it is how I approach baseline studies for all projects that require them, and is effectively 'notes to self'. The maps are marked up by hand, using a wide variety of sources of information. The main features and factors are highlighted, and where necessary, carried forwards for more detailed analysis / assessment. I also print out the preliminary baseline plans for the site visits, and mark those up whilst out and about (see for example Plans E and F).
- 3.3.3 In summary, the rural landscapes in between the settlements predominantly comprise good quality, productive agricultural farmland interspersed with blocks and belts of woodland (both native broadleaved and coniferous plantation), and apart from several scattered villages and farmsteads, largely unsettled. Beyond the busy A1 corridor to the west, there are relatively high degrees of tranquillity and in places, quite dark skies.
- 3.3.4 The topography of the wider area is varied but generally low-lying. East of Bourne, Greatford, and Uffington, the land is very flat, being fenland, drained by dykes and peppered with artificial lakes left from quarrying (often sand / gravel). West of Bourne, Greatford and Uffington, the land transitions into a quite complex series of gentle and more pronounced undulations, influenced by the various watercourses which drain eastwards through the region

and mainly discharge into the River Welland (which ends up in The Wash, east of Boston in east Lincolnshire).

- 3.3.5 The transition zone is in fact the boundary between two distinctly different national character areas (NCAs): NCA 42 The Fens to the east, and NCA 75 Kesteven Uplands (the site's host NCA) to the west; the local landscape character types and areas also reflect this natural (and cultural) transition.

Transition between fen and uplands, east of Greatford



- 3.3.6 Much of the area also reflects the NCA 75 profile description, which states, '*This is a **deeply rural** landscape which has only a very small urban area*' (my emphasis).

- 3.3.7 There are numerous high value heritage and cultural assets within the study area that I established for my review, many of which have interinfluence and / or intervisibility with the proposed development. Those of most relevance to the character of the site and surrounding areas and potentially, the assessments of effects arising from both construction and operation, include:

i) Scheduled monuments:

Many in Stamford (see also Conservation Areas below). According to Stamford Town Council's website, there are '*eight ancient monuments in and around the town on either side of the Welland*'.

Elsewhere, Essendine Castle moated manorial site dates from the late 12th / early 13th century. According to the schedule, it is one of the most impressive of its kind in the county. There are scheduled medieval settlement remains at Shillingthorpe Park, just south of the site's eastern end, and a scheduled Roman town site lies on the eastern side of Great Casterton, which is along the proposed construction route.

ii) Grade I and II* listed buildings:

Stamford Town Council's website states that '*Within this area there are over 400 buildings classed as Grade II (of special architectural or historic interest), or Grade II* (of particular importance)*'.

In addition, there are at least seven Grade I listed buildings in Stamford town centre alone.

There are many Grade I and II* listed buildings within the site's contextual landscapes, often Norman churches / associated manor houses; these features are important characteristics of the towns and villages in the area. Stamford boasts five Grade I listed churches. Other Grade I churches in relatively close proximity to the site / along the proposed construction route can be found in Careby, Witham-on-the-Hill, Carlby, Braceborough, Greatford, Barholm, Great Casterton, and Ryhall.

The churches at Essendine and Little Casterton are Grade II* listed.

In the wider area there are a few Grade I listed large 'gentlemen's residences' within designed historic parkland – see below.

iii) Registered Parks and Gardens (RPGs):

There are several RPGs in relatively close proximity to the main site (up to c. 3km from the main site boundary) or with potential interinfluence / intervisibility, and along the construction route, at Greatford, Uffington, Burghley (also site of Grade I listed Burghley House), and Holywell (with cluster of Grade II* buildings including church and hall). There are also large RPGs at Exton Park west of the A1, and Grimsthorpe Park c. 4km north of the site.

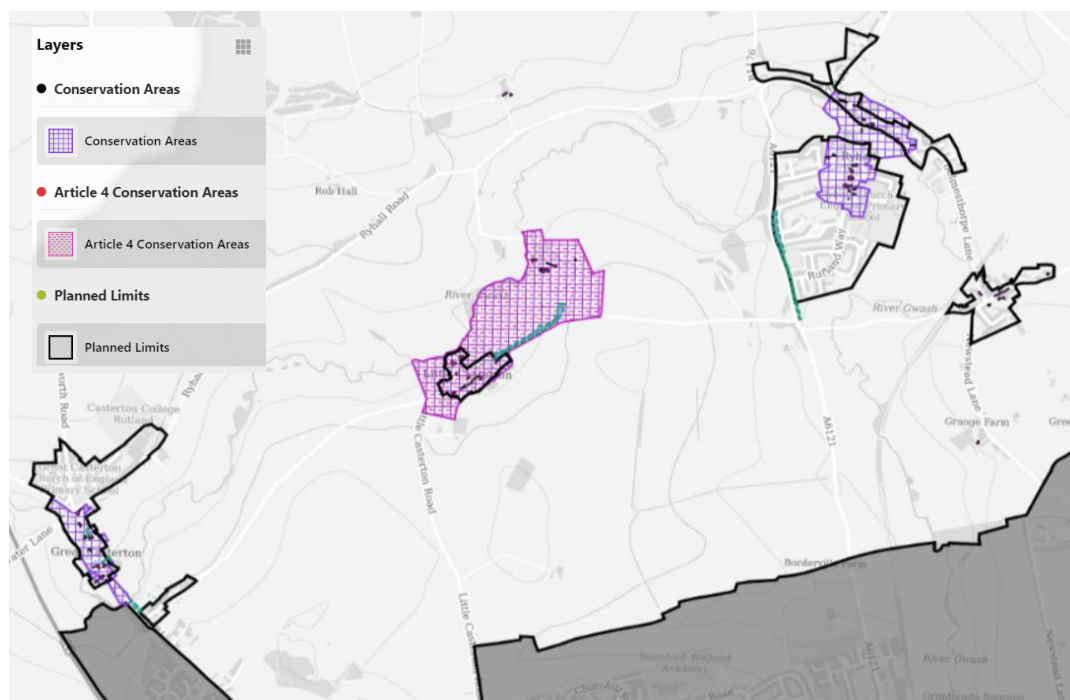
The site covers a large proportion of the landscapes which lie in between the RPGs (and other high value heritage assets) which surround it.

iv) Conservation Areas (CAs):

Stamford Town Council's website states that '*in 1967, Stamford was the first designated conservation area in England, and the whole of the old town and St Martins has thus become an area of outstanding architectural and historic interest of national importance*'.

As well as Stamford, the following CAs lie within c. 3km of the site and / or along the construction route: Witham-on-the-Hill, Braceborough, Greatford, Barholm, Uffington, Great Casterton, Little Casterton, and Ryhall. I note that ES Figure 8.1: Statutory and Non-Statutory Historic Environment Designations Plan does not show the CAs at Stamford or Little Casterton – the location of the latter is shown on the image overleaf.

Extract from Rutland CC's online Development Control Map



v) Undesignated heritage assets:

Within the main site boundary, there is evidence of several undesignated heritage assets / archaeological features, for example a suspected Bronze Age barrow, an Iron Age settlement, a Roman sarcophagus, and other Roman artefacts. These are described in more detail in the following sections where relevant.

- 3.3.8 The majority of the main part of the site comprises fields in agricultural (arable) use. The fields are interspersed with small, predominantly broadleaved woodland blocks and belts, although these are excluded from the Order limits. For the purposes of this project, the Applicant divided the main part of the site into 54 separate land parcels (although two were subsequently excluded): some are individual fields, others are more than one.
- 3.3.9 The fields would have been enclosed (with hedges) in the 19th century. I carried out historic map regression exercises which show that broadly, the historical field patterns are intact, although the removal of hedges over time has resulted in some field enlargement through amalgamation.
- 3.3.10 The site's drainage is relatively complex, but important to understand in terms of potential environmental effects.
- 3.3.11 To the south of the site, the River Gwash meanders eastwards from Rutland Water reservoir (a Ramsar site⁷ and a Site of Special Scientific Interest (SSSI)) through Ryhall before turning south to join the River Welland east of Stamford. North of the site, the West Glen River flows south to Aunby before meandering eastwards through Essendine towards Greatford, at which point it splits. One channel flows south-eastwards, having been modified as a flood relief channel (known as the Greatford Cut) which takes water that would otherwise flood Greatford down to the River Welland, which it joins west of Market Deeping. The other channel flows north-eastwards through Greatford and joins the Welland east of Surfleet.

⁷ Ramsar Sites are wetlands of international importance: see <https://jncc.gov.uk/our-work/ramsar-convention/>

3.3.12 **The River Welland drains into The Wash, which is a Ramsar site, a Special Area of Conservation (SAC), and a SSSI.**

3.3.13 North east of Greatford, the north-eastern channel transitions into the highly characteristic and distinctive fen and dyke drainage systems, parts of which are highly valuable wildlife habitats, including **Baston Fen SAC and Baston and Thurlby Fens SSSI.**

3.3.14 The West Glen River runs north of the western end of the site, briefly forming the site's northern boundary; it then flows south along the eastern edge of Essendine and under the railway. Where it emerges, it is joined by a tributary stream which bisects the central part of the site, and continues eastwards, south of the railway, through the central – eastern part of the site and on towards Greatford. Several other West Glen River tributaries flow along the boundaries of and through the site, on both sides of the railway. **Some appear to rise as springs in the higher parts of the site, for example in the fields east of Essendine.**

3.3.15 Where it flows past and through the site, the majority of the land within the West Glen River corridor is categorised as **Flood Zone 3**. This includes sections of roads which form part of the proposed construction route (see below), including: Bourne Road on the eastern edge of Essendine village; the A6121 south of Toft; and parts of the A15.

3.3.16 As well as the Ramsar sites / SACs / SSSIs in the wider area mentioned above, there are a few other areas of high nature conservation value within relatively close proximity to (up to c. 2km from) the main site boundary and / or along the construction route.

3.3.17 Those of most relevance to the character of the site and surrounding areas (in that habitats influence / are influenced by character) and potentially, the assessments of effects arising from both construction and operation (in that effects on habitats can affect character and appearance), include:

1) SSSIs:

All on the west side of the railway: Clipsham Old Quarry and Pickworth Great Wood; Holywell Banks; Newell Wood; East Wood, Great Casterton; Tolethorpe Road Verges; and Ryhall Pasture and Little Warren Verges.

2) Local Wildlife Sites (LWSs):

There are several LWSs in the local area: their locations are shown on ES Figure 7.1. Many of these are on the site / its boundaries, and along the proposed construction route – see effects sections below.

3) Ancient Semi-natural Woodlands (ASNWs):

There are no ASNWs on the site, but one is contiguous with the eastern section of its northern boundary. Otherwise, ASNWs are located in a scattered cluster to the north, west, and south of the western half of the main site, the closest being Castledike / Newell Woods, Turnpole Wood, and Tolethorpe Oaks, all of which lie between c. 270 and 330m from the main site boundary.

The construction route does not pass through any ASNWs.

4) Priority Habitat Inventory (PHI) sites:

The ASNWs and some of the smaller woodland blocks are designated PHI – Deciduous Woodland sites. Most of the PHI – Deciduous Woodland sites on the land where the arrays would be placed have been excluded from the site boundary, apart from along the disused railway line south of Essendine, for example.

There is a small patch of PHI - Purple Moor Grass and Rush Pasture on the main site, associated with the watercourse which flows through part of the western end of the site. There is also PHI - Lowland Calcareous Grassland adjacent to the site boundary at its western end.

5) Protected / important species:

A number of protected / other important species of fauna have been recorded on / in close proximity to the site, including water vole, otter, badger, brown hare, great crested newts, grass snakes, common lizards, red kite, kingfisher, barn owl and skylark.

3.4 Recreation and Access

- 3.4.1 As mentioned in Section 2.2, my review was greatly informed by survey and analysis carried out by people from the local communities, including on the topic of recreation and access. The evidence-base (mainly maps and plans marked-up by hand to show frequently-used routes, visitor attractions, local facilities and so on).
- 3.4.2 The maps and plans of most relevance to this section are Plans C and D in Appendix CT-A (along with the accompanying explanatory text / keys).
- 3.4.3 Plan C (Map 1) shows 'everyday' routes within the wider study area, ie those which are frequently / regularly used by people from the local communities. Plan D (Map 2) shows routes within the wider study area which are frequently / regularly used by people who have travelled from further afield to visit the main attractions / facilities / features in the region, many of whom may well stay for at least one night.
- 3.4.4 An example of one of the many 'loop-routes' available to walkers, equestrians and cyclists in the local area that would be adversely affected by the proposed development – during both construction and operation – is set out in Section 5.5.
- 3.4.5 Strategically, the area within which the site lies is at the western approach to this part of the Fens, and the eastern approach to Rutland Water. It seems likely that much of the recreational / visitor vehicular traffic travelling between the two would use A-roads as opposed to the smaller roads and lanes, unless the purpose of the journey was to travel slowly and enjoy the countryside and villages (and hostelrys / other attractions) along the way.
- 3.4.6 There are bus routes running through the area which help local people and visitors travel more sustainably, and reach destinations at / from which they can enjoy / explore the various natural, cultural, recreational and visual resources that the landscapes have to offer. One of the main bus routes runs between Stamford and Swinstead, via the A6121 to Ryhall, then the B1176 to Careby (passing through Aunby), after which it runs west, north and east along lanes taking in Holywell, Castle Bytham, and Little Bytham along the way, at which point it re-joins the B1176 which leads to Swinstead.
- 3.4.7 The landscapes of the study area offer very good informal recreational opportunities, especially walking, running, cycling, horse-riding and nature-watching, activities which are enjoyed by locals and visitors alike, summarised as follows:
- i) There is an interconnected network of quiet lanes, public footpaths, bridleways, BOATs and permissive paths, many of which follow prehistoric routes.
 - ii) There are also areas of Open Access Land (including Braceborough Great Wood at the eastern end of the site's northern boundary, and Holywell Wood / Pickworth Great Wood c. 2km west of the site).

- iii) Several popular long-distance trails cross the study area, including the Rutland Round (a section of which runs between Great Casterton and Pickworth), and the Macmillan Way (runs through the Fens south of Bourne, taking in Greatford, Stamford and Easton-on-the-Hill, at which point it joins the Hereward and Jurassic Ways and runs on to Rutland Water).
- iv) The wide variety of walking routes in both the wider and neighbourhood areas is illustrated in a publication called *Will's Walks: 21 Rambles Around Stamford and Rutland* (an initiative of *Active* magazine, a resource for people living in / visiting the areas around Stamford in particular). There are currently three in the series.
- v) **The published walking routes which are likely to be directly or indirectly affected by the proposed development during construction and / or operation** are Series 1 Walks 2, 7, 8, 18 and 19; Series 2 Walk 11; and Series 3 Walks 4 and 19. For ease of reference, extracts from the publications with the descriptions of these walks are provided in Appendix CT-B.
- vi) One of the most well-used routes in the vicinity of the site, and which features twice in *Will's Walks* (Series 2 Walk 11 and Series 3 Walk 4), is The Drift, part of an old drovers' trackway that meanders through the countryside along what are now variously narrow lanes, BOATs (much of The Drift is a BOAT), and bridleways, arriving in Essendine from the west via the villages of Clipsham and Pickworth. The description of The Drift in *Will's Walks* Series 3 Walk 4 states, "**Walk gradually uphill along this ancient drover's track and you will soon be transported to one of the most peaceful places in the whole area** (my emphasis)". See image below.

Extract from Will's Walks Series 2 Walk 11 (reproduced with the kind permission of Triangle Publishing Ltd and www.theactivemag.com)



11. Ryhall, Tolethorpe and The Drift

This tiny corner of east Rutland packs a decent punch with a clear river, some steep sections and bags of rural charm.

- vii) The Drift begins just east of Pickworth and ends at the junction with the B1176 west of Essendine. Along the way, it passes along the western section of the site's southern boundary, where solar arrays are proposed (Fields 2 and 3). From the junction with the B1176, if on foot, bicycle or horseback, one travels on to Essendine by turning south

along a short section of the B1176 then following the bridleway across fields to Stamford Road. These fields are also part of the site where solar arrays are proposed (Fields 5 – 16).

- viii) The Drift and the bridleway to the Stamford Road are strategically important for walkers in the study area because they link two long-distance trails: the Rutland Round long-distance trail at Pickworth, and the Macmillan Way south of Essendine. From Essendine, one reaches that section of the Macmillan Way via the Carlby – Greatford lane, and a north – south bridleway which joins the Macmillan Way on a lane south of the railway. Apart from a short section south of the railway, the full length of the bridleway runs through / along the edges of the main site.
- ix) National Cycle Network (NCN) Route 63 runs east – west through the study area, south of the River Welland, through Stamford and on to Rutland Water. According to local sources, many touring cyclists divert northwards onto lanes and bridleways / BOATs: there are several websites advertising good cycling routes in the area, some of which cross and or run along the main site boundary, and / or are along the construction route.
- x) Local cycling events are regularly held, and occasionally, national ones (which often involve road closures). There are also many cycling clubs and groups which regularly use the lanes and bridleways. It is clearly a very popular social activity around here, as well as a sporting / fitness one, perhaps due to the high quality of the resource.
- xi) Examples of such events and groups include:
 - At an international level, the CiCLE Classic is a 'professional' road cycling event – a 183km-long race – which takes place in the area annually (in April); it is organised by the Union Cycliste Internationale (UCI), the World governing body for international cycle sports events⁸. The day before the event, local amateurs compete. The route varies from year-to-year, and may not be along roads in the vicinity of the site, but interest in the event draws keen cyclists in from the wider area, increasing use of the local road / bridleway / cyclepath networks.
 - National events held annually in the area include the Rutland Border Epique Sportive, the Tour of Cambridgeshire Sportive 100 – again, not in the vicinity of the site, but many cyclists attend and use local cycling resources.
 - British Cycling's annual tour of Britain may come to this area in future.

⁸ <https://cicleclassic.co.uk/rutland-cicle-tour-sportif/>

Cyclists in Greatford, March 2023



Cycling event along B1176 north of Ryhall



- xii) Horse-riding is another popular activity in the area, again due to the good quality of the available resource, and relative absence of heavy traffic on local lanes. Members of the local community marked up maps to show the main equestrian routes and facilities within the study area – there are several commercial liveries as well as privately-owned stables, some of which are in relatively close proximity to the site.
- xiii) In addition, Burghley Park, which lies just south east of Stamford, hosts major equestrian events (horse trials). The website states that 'Burghley' is *'The world's greatest 5* equestrian event acknowledged globally by leading riders as their ultimate competitive goal. A key event towards the end of the summer social season, Defender Burghley attracts*

fantastic crowds to witness exhilarating equestrian action alongside browsing the world renowned shopping avenues and enjoying the many other attractions and activities on offer in this truly stunning location'.

- xiv) The bridleways mentioned above, including those which cross the site, are particularly well-used by riders, mainly because they form part of a series of long and short loop-rides which pass through many of the villages in the wider area, some of which are on the proposed construction route, including Careby, Aunby, Carlby, Greatford, Belmesthorpe, Ryhall, Pickworth, Holywell, Clipsham, Castle Bytham, and Little Bytham. It is also possible to cross the A1 in places, and ride all the way to Rutland Water. See Section 5.5 below.
- xv) The Public Right of Way (PRoW) networks are used frequently by people from the local communities when travelling to work, school, the shops / health facilities, community events, visit people and so on.
- 3.4.8 The availability of the above and other recreational resources to the local communities makes an important contribution to their health and well-being and the quality of their lives. Furthermore, the resources are important to the local economy, in that many businesses cater for tourists (and may rely on tourism to a great extent, albeit most are small-scale / low-key), for example shops, cafés / hostelrys, bed-and-breakfasts / Airbnbs, galleries, and natural / cultural assets.
- 3.4.9 It is also important to note that during the Covid pandemic lockdowns, many people began to explore, understand and value what was in their back yards for the first time. I have undertaken research on this subject on behalf of my local AONB management unit, which strongly suggests that the initial wave of enthusiasm for access to the great outdoors has diminished little since then. The majority of people I spoke to who, before the pandemic, had not made much use of the informal recreation activities available in their local area said that they were "100% likely" to continue doing so in future. Many cited improved mental / physical health and sense of well-being as the reason. Thus, in my opinion, **use of local recreational resources is likely to increase, not decrease in future.**

3.5 Green Infrastructure & Ecosystem Services

- 3.5.1 As well as those described above, the site and surrounding landscapes contain several valuable GI assets (physical / natural / historic / recreational features and elements, individually and in combination), and perform many important Green Infrastructure (GI) (and ecosystem service) functions. These include the provision of:
- access to nature, recreation, movement and leisure (for humans)
 - habitats for nature and support for biodiversity
 - landscape setting and context
 - energy production and conservation
 - food production and productive landscapes
 - flood attenuation and water resource management
 - cooling effects to mitigate the impacts of climate change.
- 3.5.2 The Government's recently-revised (July 2019) version of the Natural Environment PPG para. 006 explains that GI assets and functions can help to achieve the following planning goals:
- building a strong, competitive economy;
 - achieving well-designed places;
 - promoting healthy and safe communities;

- mitigating climate change, flooding and coastal change; and
- conserving and enhancing the natural environment.

3.6 Views and Visual Amenity

3.6.1 The baseline visual situation within the study area is described where relevant in the visual effects sections, but in summary, the combination of predominantly low-lying / gently-undulating land and mature vegetation (mostly scattered woodland blocks / belts and well-hedged fields) tends to limit very long-distance views at lower-lying viewpoints, albeit the character of the views is often open / panoramic.

3.6.2 A Landscape sensitivity and Capacity Assessment (LSCA) carried out for the local area notes that the '*gently undulating plateau creates **limited enclosure**, except in locations where seasonally dry incised tributary valleys are located... **skylines** within the area are generally formed by vegetation and the **landform of the plateau**. **Views within the area are often extensive...** There are **views into the area from Cottesmore Plateau – Exton and Burley to the west and to the edges of the area from the surrounding valley and plateau landscape**'.*

Open views looking south east from Stamford Road in Essendine towards central and southern / south-eastern parts of main site (south of railway)



3.6.3 In fact, on higher ground, for example at Easton-on-the-Hill to the south of the study area, fine long-distance views are available, including towards the area where the site is located, c. 5.4km north east of Easton-on-the-Hill at its closest point (and c. 9.8km at its furthest). In theory, from Easton-on-the-Hill, the full c. 8km north west – south east extent of the main site could be visible.

3.6.4 Also, Essendine is certainly visible from the top of Swallow Hill, Thurlby, which lies c. 5.5km north east of the village (and just over 4km from the solar PV site's northern boundary), so it is likely that the arrays and other scheme elements would be visible from there as well.

- 3.6.5 Plans E and F in Appendix CT-A show the locations of viewpoints / view routes throughout the wider study area from which it was considered certain, likely or possible that the developed site would be visible. Most but not all were visited. However, the scope of this commission did not extend to a technical assessment of visual effects, which would have involved the production of computer-generated images / photomontages to establish the proposed development's zone of visual influence.
- 3.6.6 Incidentally, it appears that **some or all of the photomontages in the Applicant's LVIA have not been updated to reflect the recent scheme changes**. It is important that the ExA / others are provided with the correct information.
- 3.6.7 Plan G in Appendix CT-A shows public and private viewpoints on / in the vicinity of the main site. It is based on ES Figure 4.3 Concept Masterplan, which makes it much easier to assess how existing views are likely to change. There are four categories of viewpoints: 1) the Applicant's LVIA's 'representative' viewpoints; 2) the Applicant's LVIA's 'illustrative' viewpoints; 3) MPAG's suggested 'representative' viewpoints; and 4) MPAG's additional residential viewpoints. See also visual effects in Section 5.4.

4. Proposed Development

This section sets out a summary description of the proposed development during the construction, operational, and decommissioning phases.

Much of the information of relevance to landscape and visual matters is available in the Applicant's ES and other documents submitted / associated with the Application, but is repeated here for ease of reference, as it is difficult to find all the details necessary for the assessments of effects, which are scattered throughout the various reports and plans. Also, some information appears not to have been provided, so I have added / augmented where appropriate / possible.

The first part of the section provides a brief overview of the scheme, the second part describes the scheme elements which are of relevance to the assessment of landscape, visual and other effects. This information is required to inform answers to the question posed in Section 2.2 above, *What is the nature of the likely effects arising from what is proposed?*

4.1 Project Description: Overview

- 4.1.1 ES Chapter (Ch) 5 para. 5.17.1 states that '*The operational life of the Proposed Development is not proposed to be specified in the DCO and **the Applicant is not seeking a time limited consent.** The EIA [Environmental Impact Assessment] has been carried out on the basis that the Proposed Development is **permanent**, to ensure a worst-case assessment of likely significant effects'* (my emphases). I agree with this approach: the effects arising from a project having what is usually (in the case of solar developments) described as a 'temporary' lifetime of 30 – 40 years will certainly be experienced permanently by many people.
- 4.1.2 The Application site is c. 852ha. It lies within predetermined Order limits (ie the areas within which the proposed development may be carried out), the extent of which is shown on the Applicant's drawings.
- 4.1.3 The Order limits cover four different geographical areas:
- 1) The Solar PV Site (c. 420ha): this is the land which would accommodate the solar photovoltaic (PV) arrays, the proposed onsite substation and associated ancillary infrastructure, security fencing and temporary construction compounds.
 - 2) Mitigation and Enhancement Areas: land required for landscape screening, habitat creation and provision of permissive paths.
 - 3) Highway Works: land outside the main array area boundaries required for cable route connections, and temporary and permanent works to existing highways during construction, operation and decommissioning.
 - 4) Grid Connection Corridor: for the grid connection cable that would run through fields between the proposed on-site substation and the existing National Grid substation which lies north of Ryhall.
- 4.1.4 ES Figure 4.3: Concept Masterplan is useful as it shows the extent of the Order limits as well as the site's immediate landscape context, and the locations of the above areas.
- 4.1.5 The draft DCO divides the 'authorised development' into works packages, as follows:
- a. *Work No. 1: A ground mounted Solar Photovoltaic Generating Station;*
 - b. *Work No 2: Onsite Substation;*
 - c. *Work No 3: Grid Connection Route (Work No 3A) including access tracks (Work No 3Ai) and temporary construction laydown areas (Work No. 3B);*

- d. Work No. 4: Electrical cables and communication cables connecting to Work 1 and Work 2;*
- e. Work No. 5: temporary construction and decommissioning laydown areas;*
- f. Work No. 6: works to facilitate access to Works Areas 1 to 5;*
- g. Work No. 7: works to create, enhance and maintain green Infrastructure.*

4.2 Scheme Elements

4.2.1 For ease of reference, the headings in this section are set out in the same order as the headings in the Applicant's Environmental Statement (ES) *Chapter 5: Project Description*.

4.2.2 A summary list of the proposed scheme elements / components is provided in Chapter (Ch) 5 para. 5.1.4 as follows:

'The area subject to the DCO Application comprises the Solar PV Site, the Grid Connection Corridor, the Highways Works Site, and Mitigation and Enhancement Areas of which the principal components comprise the following:

- a. PV Modules;*
- b. Mounting Structures;*
- c. Inverters;*
- d. Transformers;*
- e. Switchgears;*
- f. Onsite Substation and Ancillary Buildings;*
- g. Low Voltage Distribution Cables;*
- h. Grid Connection Cables;*
- i. Fencing, security and ancillary infrastructure;*
- j. Access tracks; and*
- k. Green Infrastructure (GI).'*

4.2.3 Para. 5.3.2 explains that *'The DCO also allows for the following works to take place within each and all of the works areas referred to above. This has been taken into account in the assessments undertaken in this Environmental Statement:*

- a. fencing, gates and boundary treatment;*
- b. drainage;*
- c. security and monitoring measures such as CCTV columns, lighting columns and lighting, cameras, lightning protection masts;*
- d. improvement, maintenance and use of existing tracks*
- e. new internal access tracks, signage and information boards;*
- f. permissive paths*
- g. temporary footpath diversions;*
- h. landscaping;*
- i. earthworks'.*

4.2.4 More detailed descriptions of the proposed development are provided in the rest of Ch 5 of the ES, and where relevant to the topic, in other ES chapters, on drawings, and in stand-alone documents; for example, the scheme elements and activities proposed during construction, operation and decommissioning are described respectively in the November 2022 documents *Outline Construction Environmental Management Plan (oCEMP)*, *Outline Operational*

Environmental Management Plan (oOEMP), and Outline Decommissioning Environmental Management Plan (oDEMP).

- 4.2.5 Where insufficient information / description / detail is provided in the Applicant's submissions, I have added / augmented / queried as appropriate. Also, it was difficult to establish the precise locations of many of the scheme elements due to the information on the plans not being detailed enough, and / or scattered throughout the submission; I therefore marked some of the relevant information – such as access points, compound locations and possible internal access track / cable routes – onto one plan (see Plan H in Appendix CT-A).
- 4.2.6 It should also be noted that the Applicant has adopted what is called the 'Rochdale Envelope' approach. PINS' Advice Note 9 explains that this approach *'is employed where the nature of the Proposed Development means that some details of the whole project have not been confirmed (for instance the precise dimensions of structures) when the application is submitted, and flexibility is sought to address uncertainty'*.
- 4.2.7 ES Ch 5 para. 5.2.3 explains that in this case, the approach involved *'specifying parameter ranges, including details of the maximum, and where relevant the minimum, size (footprint, width, and height relative to above ordnance datum (AOD)), technology, and locations of the different elements of the Proposed Development, where flexibility needs to be retained. The use of the Rochdale Envelope approach has therefore been adopted to present a likely worst-case assessment of the potential environmental effects of the Proposed Development'*.
- 4.2.8 The scheme elements / components / activities which are of most relevance to this review in terms of the likelihood of them giving rise to effects on landscape character and visual / social amenity are set out below.
- 4.2.9 ES Ch 5 does not describe all of the proposed operational mitigation / enhancement / compensation measures, the details of which are usually set out in the ES topic chapters. See Section 4.3 below, and the effects sections.

Operational Requirements

- 4.2.10 ES Ch 5 para. 5.17.2 states that *'During the operational phase of the Proposed Development, onsite activities would include routine servicing, maintenance and replacement of solar equipment as and when required, as well as management of vegetation'*.

Works No. 1 (solar PV site)

- 1) The solar panels (also called PV modules) would be spread across the main site, interspersed with the proposed Mitigation and Enhancement Areas, as shown on ES Figure 4.3: Concept Masterplan.
- 2) In terms of the layout of the panels, according to para. 5.4.5 of Ch 5 of the ES, *'The DCO Application will seek to allow for flexibility that allows for different configurations of PV Modules. The final elevations of the PV Modules will be influenced by various design factors such as local topography, and selection of PV Module type and configuration'*.
- 3) ES Ch 5 para. 5.4.6 states that *'the total number and arrangement of PV Modules will depend on the available technology at the time of construction. For the purposes of enabling an assessment, this ES has assumed 530,303 panels would be required'*.
- 4) The solar panels comprise a series of photovoltaic cells and are flat, with a glass-like surface. They would be mounted on metal mounting structures arranged in rows (called PV tables).
- 5) Para. 5.4.9 of ES Ch 5 explains that two options for the mounting structures have been considered / assessed: a) fixed south-facing (FSF) arrays, and b) single-axis tracker (SAT) arrays. The indicative elevations for both are shown on ES Figure 5.2.

- 6) In summary, system a) is fixed / stationery, and would be installed between 18 and 25 degrees to the horizontal, facing south. System b) would operate between 60 degrees from the horizontal (facing east a.m. and west p.m.), and 0 degrees (horizontal) at midday. The PV tables would track from east to west throughout the day and would return to their resting position of 60 degrees (facing east) overnight.
- 7) In both systems, the top of the panels would be a maximum of 3.3m above ground-level with a clearance of 800mm below '*so as not to restrict the movement of animals such as sheep*' (ES Ch 5 para. 5.4.12).
- 8) The PV tables would be laid out in rows a minimum of 2m apart (a set parameter).
- 9) According to ES Ch 4 para. 5.4.15, the mounting frames '*will be pile driven or screw mounted into the ground to a maximum depth of 2.5m, subject to ground conditions*'; however, it also goes on to say that '*The option to install concrete blocks known as "shoes" may also be considered, avoiding the need for driven and screw anchored installation, therefore minimising ground disturbance*'.
- 10) On the main site, as well as the solar panels and the new substation, there would be inverters, transformers and switchgears.
- 11) The EIA considered / assessed two options for the inverters: a) string, and b) central. In summary, string converters are attached to the solar panels' mounting structures, whereas central inverters are housed in either large containers or cabinets which are co-located with the transformers and switchgears, either in the same or separate containers / cabinets (as a group, these elements are referred to as a 'solar station'). The set parameters for the maximum container / cabinet dimensions are 6.1m long x 2.5m wide x 3.2m high. ES Ch 5 Table 5.3 states that the indicative colour would be '*in keeping with [the] prevailing surrounding environment, painted dark green / light grey*'.
- 12) The EIA also considered / assessed two options for transformers: a) string (used with string inverters) and b) central (used with central inverters). String transformers would be in containers distributed throughout the site, central transformers could be located in the same container as the central inverters, or in separate ones. The dimensions of the containers / cabinets are the same as above ie 6.1m long x 2.5m wide x 3.2m high, but the indicative proposed colour is green only.
- 13) The switchgears would either be located in the same containers as the string / central transformers or in separate ones, the parameters for the maximum container / cabinet dimensions being 6.5m long x 2.5m wide x 3.2m high.
- 14) In addition, storage containers would be distributed throughout the Solar PV Site, the parameters for the maximum container / cabinet dimensions also being 6.5m long x 2.5m wide x 3.2m high and indicatively, painted green.
- 15) I could not find any information about the numbers of inverters, transformers, switchgears, and storage containers that would be required, although previously, the Preliminary Environmental Information Report (PEIR) had specified up to 85 'containers'.

Works No. 2 (on-site substation)

- 16) The proposed new substation and associated ancillary development would be located in a fenced compound in a c. 6ha arable field adjacent to (south and west of) the dismantled railway, south of Essendine and the main line railway.
- 17) The set parameters for the dimensions of the compound area are 200m x 100m, ie a total area of 2ha. ES Figure 5.5 shows an indicative substation layout plan, and the location of the proposed substation is shown on ES Figure 6.11: Green Infrastructure Strategy Plan.

- 18) The compound would contain transformers, switchgears, and several buildings including workshop, storage, site office, welfare and electrical control buildings). The parameter for the maximum height of buildings / structures in the substation compound is 13m, although this is for the required lightning / surge protection masts.
- 19) The parameter for the maximum height of the harmonic filters is 12.5m, that for the main transformer is 10.5m, and for the various buildings, 6m.
- 20) I could not find any information about the proposed buildings' nature or design in the ES, for example materials, colours and finishes; nor was it clear what assumptions were made about this in the assessments of effects.
- 21) The proposed fencing is not specified, but see Additional Works below. Proposed lighting is also described below.
- 22) Within the compound there would also be 5.5m-wide access roads, and parking provision.

Works No. 3 (grid connection cable route)

- 23) Cabling would be required to connect the on-site substation to the existing one. The cables would be buried in 2m-deep trenches.
- 24) ES Figure 5.7: Indicative Cable Crossing Locations shows the indicative location of the proposed cable connection route between the existing and proposed substations, which runs under Uffington Lane. ES Ch 5 para. 5.7.3 states that '*Any cables that are located within the adopted highway would be located within the carriageway and/or verge so to avoid the loss of boundary hedgerows or trees*'.

Works No. 4 (electrical / communication cables)

- 25) Cabling in underground trenches would also be required to run through the site between the PV tables and the solar stations, and through the site / along roads between the solar stations and the new substation. ES Figure 5.6 shows an illustrative cable trench section (these trenches would 'typically' be up to 1.5m wide with a maximum depth of 1.3m).
- 26) Figure 5.7 indicatively shows where cables would have to cross public roads and the main line railway; however, I could not find plans showing the cable routes that would run within the site to the new substation (see Plan H in Appendix CT-A).
- 27) ES Ch 5 paras. 5.7.7 – 8 explain that three options were considered and assessed for the cabling connection routes which would be required to connect the solar stations on the parts of the main site which lie east of the railway with the new substation which lies to the west. The indicative locations of the three route options are shown on ES Figure 5.8. Option 1 is *through the existing brick culverts underneath the East-Coast mainline and Horizontal directional drilling (HDD) underneath the West Glen River*; Option 2 is *HDD underneath the East Coast mainline and the West Glen River*; Option 3 is *within the adopted highway and over the railway bridge within Essendine*.
- 28) It is possible that some of the cable routes within the main site would follow the proposed internal access tracks (see below), but not in all cases, and not where it would be necessary to cross the railway.

Works No. 5 (temporary construction compounds)

- 29) During construction, a temporary 'primary' construction compound would be located on the main site, within the same field as the proposed new substation. Seven temporary

'secondary' construction compounds would also be created in various parts of the site - their indicative locations are shown on ES Figure 5.12.

Works No. 6 (highways works)

- 30) The proposed construction routes to and from the main site are explained in the Construction Requirements section below.
- 31) The primary point of access to the main site during construction, operation and decommissioning would be from an existing field access off Uffington Lane, which leads into the primary construction compound / new substation field. The access point would need to be 20m wide, with a with a 20m lead-in from the highway to the gate to the site.
- 32) There would also be up to eight secondary access points into the main site, which would serve both the secondary construction compounds and the site during operation. Their locations are shown on ES Figure 5.10.
- 33) ES para. 5.9.3 states that '*all would be taken from existing agricultural tracks and field entrances*' apart from '*along the B1176, Carlby Road, and Main Street (leading to Carlby)*'.
- 34) ES para. 5.9.2 states that the secondary access points would need to be 6.5m wide, with a 20m lead-in from the highway to the gate to the site. ES para. 5.9.3 explains that '*In order to create the points of access, vegetation will need to be removed to either widen an existing field access or create a new point of access. The vegetation either side of the point of access will need to be removed or managed to create visibility splays... further details can be found in the oLEMP [EN010127/APP/7.9]*'.
- 35) ES para. 5.9.4 explains that '*To facilitate the movement of HGVs along Uffington Lane during the construction phase, temporary passing bays will be established. The passing bays will be temporary, with the verges reinstated and managed to support the ecological designations during the operational phase as described within the oLEMP. If during the operational phase HGVs are required to access the Proposed Development, this will be managed through the use of temporary traffic management measures, as described within the oCTMP [EN010127/APP/7.11]*'.
- 36) ES para. 5.9.5 states that '*To facilitate the movement of Abnormal Indivisible Loads (AIL) which are required to transport components of the Onsite Substation, temporary works are required within Great Casterton and Ryhall, as shown on the Works Plans [EN010127/APP/2.2]. These temporary works will include the reinforcement of kerbs and the relocation of street furniture and will be reinstated after the AIL movements have been completed*'.

Works No. 7 (proposed green infrastructure)

- 37) ES Ch 5 para. 5.10.1 states that '*The existing hedgerows, woodland, ditches, ponds and field margins will be retained within the Order limits, with the exception of small breaks and/or crossings required for new access tracks, security fencing, cable routes and new access junctions. Any hedgerow or ditch crossings will be designed to use existing agricultural gateways/tracks or gaps in field boundaries and the width of any new crossings kept to a minimum. Where a cable crosses a hedgerow, the hedgerow will be reinstated post construction*'. **The amount of vegetation loss is not quantified in ES Ch 5, nor could I find that information elsewhere.** This is discussed further in the effects sections below where relevant.
- 38) ES Ch 5 Table 5.10 sets out the minimum distances, or 'offsets', between the proposed 'solar infrastructure' and various 'landscape and ecological features and designations', and their locations are shown on ES Figure 4.3 *Concept Masterplan*; however, the para

before the table (5.10.2) states that the offsets are to the proposed 'security fencing'. **This matter requires clarification, as it makes a difference to the assessment of effects.**

- 39) ES Ch 5 para. 5.10.3 explains that '*The existing Public Rights of Way (PRoW) that cross the Order Limits have been retained and incorporated within multifunctional green corridors*' (I assume this is meant to refer to public footpaths and bridleways only, and not roads). The para. goes on to say that '*there may be requirements to temporarily divert PRoWs for a period during the construction phase*' – routes that may be affected are shown on the Access and Rights of Way plan EN010127/APP/2.4, and the measures proposed to 'maintain public safety' are set out in the oCEMP.
- 40) ES Ch 5 paras. 5.10.4 – 7 briefly describe the proposals for new GI, which are also shown on ES Figure 4.3.
- 41) ES Ch 5 para. 5.10.6 notes that there would be '*approximately 7,500m [sic] of structural tree planting, and approximately 14,000m [sic] of structural hedgerow planting*'. It is not clear whether the measurements are linear metres or m², but as the structural tree planting is described elsewhere as a 'belt' (albeit the width of the belt is not stated and presumably would vary from place to place), I assume that both are linear m. Nor is it clear whether this planting is required for mitigation, or is a proposed enhancement – see Section 5.1 below.
- 42) ES Ch 5 para. 5.17.5 states that '*The land underneath and around the PV Arrays **could** [my emphasis] be managed through a combination of sheep grazing and/or hay/silage production in order to maintain the field vegetation during the operational phase of the Proposed Development. The management of the Green Infrastructure and Mitigation and Enhancement Areas will be undertaken in accordance with the outline Landscape and Ecological Management Plan (oLEMP) [EN010127/APP/7.9]*'.

Additional works (fencing, security and ancillary infrastructure)

- 43) ES Ch 5 para. 5.10.12 mentions 'security fencing' (in the context of proposed offsets between the fence and existing features / habitats – see above). Para. 5.11.1 describes the fencing proposed to be used to protect the solar PV site as '*a deer fence*' (*wooden posts and metal wire mesh*) and will be up to 2m in height'. ES Ch 5 Table 5.11 *Parameters for Fencing* states that the posts could also be metal. '*Access gates will be of similar construction and height as the perimeter fencing*'. The fencing and gates are illustrated on ES Figure 5.9. Presumably, various forms of signage would be placed on the gates.
- 44) In order to allow the continued passage through the site of larger creatures such as badgers, once erected, either the fence would be modified to allow 'clearances above ground', or 'mammal gates' would be cut into the fence at strategic locations.
- 45) However, in my experience, it is highly likely that the fencing would have to be far more robust than post-and-wire in order to deter thieves and satisfy insurance requirements – see Section 5.1 below.
- 46) Also, **high-security metal fencing** would presumably have to be erected around the substation: this is alluded to in ES Ch 5 Table 5.11 which states that the parameter for the height of 'palisade' fencing is 3m. I imagine it would be similar to that shown in the image overleaf.

Example of palisade fence around substation



- 47) CCTV cameras are proposed throughout the site. Cameras would be mounted on wooden poles, and would be c. 3.5m above ground-level.
- 48) It is not clear whether the cameras would monitor public footpaths / bridleways, although this may not be considered acceptable for various reasons. Some solar development applications I deal with use phrases along the lines of, 'CCTV cameras will only monitor the development areas and will not capture images of the public rights of way or surrounding land'.
- 49) ES Ch 5 para. 5.11.4 states that '*During operation, no part of the Proposed Development would be continuously lit; manually operated and motion detection lighting would be utilised for operational and security purposes within the Onsite Substation*'. At the latter, '*there would be lighting, similar to street lighting that operates from dusk*'.
- 50) Internal access tracks within the main site would be required. ES Ch 5 para. 5.12.1 states that these would '*follow the alignment of existing agricultural tracks, where possible*' (although it is not clear where new tracks would have to be created – see Plan H in Appendix CT-A).
- 51) The internal access tracks would be constructed of compacted stone and would be 'up to 5m wide', with passing bays. '*Where an access track crosses an existing hedgerow or ditch, the maximum width of the crossing will be 3.5m*' (as far as I could ascertain, the amount of loss is not quantified – see effects sections below).
- 52) ES Ch 5 provides a very brief description of the proposed / required drainage across the site: para. 5.12.3 states that '*where drainage is required, a ditch or swale, with check dams, may be located downhill of the internal access track to control any potential for surface water run-off*'.

Construction requirements

- 4.2.11 ES Ch 5 Section 5.13 summarises the proposed construction activities; they are described in more detail in the relevant ES chapters, and in the effects sections where relevant.
- 4.2.12 The construction period is anticipated to last for two years (para. 5.13.1).
- 4.2.13 The main activities would entail the following (ES Ch 5 S5.13 provides further detail under each heading), but not necessarily in the order below, which is as set out in the ES:
- a) Site preparation.
 - b) Solar PV Site construction.
 - c) Testing and commissioning.
 - d) Habitat creation and preparation.

Construction access / routes

- 1) ES Figure 9.1 shows the proposed construction access routes and vehicular restrictions, which are summarised in ES Chapter 5, and described in more detail in Appendix 9.4 Transport Assessment.
- 2) For HGVs and AILs only, a one-way system is proposed for the majority of the construction route, apart from a short section along Uffington Lane east of the A6121, and off which the existing, and proposed temporary primary, substations are / would be situated – ES para. 5.9.1 states that vehicles would approach the primary access point on Uffington Lane from the A6121 Stamford Road from the north; however, it also notes that construction vehicles would have to approach from the south when travelling to the primary compound from the secondary ones proposed to the south east, so this section would be two-way (and as noted previously, would require passing bays – eight in total, each being c. 20m long and 2m wide).
- 3) ES Ch 5 para. 5.13.3 states that HGVs and AILs would *arrive* at the site (ie the proposed primary construction compound site) via Route 1: this would be via the B1081 Old Great North Road, Ryhall Road, the A6121 Essendine Road, and Uffington Lane. HGVs and AILs would *depart* from the primary construction compound site via Route 3, which would be via Uffington Lane, the A6121 Stamford Road, West Road, Raymond Mays Way (south of Bourne), the A15, and the A47.
- 4) However, there may be exceptions to the one-way system - I note that ES Ch 5 para. 5.13.5 states that '*a large transformer (in excess of 100 tonnes) will be required*', and explains that '*Route 1 is the preferred entry **and exit route** for AIL and segments of this route have been included within the redline boundary*'.
- 5) Route 2 was considered as an option for use by HGVs and AILs but was discounted (apart from when the other routes were closed) following consultation, mainly due to the adverse effects likely to arise. That route ran north – south between Ryhall and Stamford along the A6121, and east – west along the A1175 between Stamford and the A15 west of Market Deeping.
- 6) Light goods vehicles (LGVs) would use Routes 1, 2 and 3 in both directions.
- 7) The reason for the inclusion of segments of the construction route within the red line boundary is because, in order to accommodate the AILs / other abnormally-large vehicles, there would have to be '*temporary localised road widening, temporary adjustments to the highway arrangement and/or street furniture, or other highway improvements between the A1 and the Solar PV Site*'.

- 8) Areas where segments of the construction route are within the red line boundary include the junction of Pickworth Road / Ryhall Road / the B1081 at Great Casterton; and the junction of the Ryhall Road / A6121 / B1176 junction, just north west of Ryhall.
- 9) ES Figure 5.12 shows the locations of the proposed primary and secondary construction compounds. As noted above, the primary construction compound would be located on the main site, within the same field as the proposed new substation, with access off Uffington Lane. Seven secondary construction compounds would also be created in various parts of the site.
- 10) I note that ES Figure 9.1 only shows the routes described above, ie on the basis of all construction traffic arriving at / departing from the primary construction compound. However, it is not clear which routes construction traffic would take (whether AILs, HGVs or cars / vans) between the primary and secondary compounds, nor whether the effects of this have been assessed.
- 11) ES Ch 5 S14 explains that the landscape and habitat reinstatement and creation will commence during the construction phase, and will be undertaken in accordance with the oLEMP.

Decommissioning

4.2.14 Es Ch 5 Section 5.18 summarises the proposed decommissioning works.

- 1) ES Ch 5 para. 5.18.2 states that *'Temporary Decommissioning Compounds would be created to house necessary plant and equipment and provide areas for parking for site staff'*. It is not clear where these compounds would be located, nor how many there would be. Para. 5.18.4 explains that *'the Solar PV Site would be reinstated in accordance with a Decommissioning Environmental Management Plan (DEMP)'*.
- 2) Paras. 5.18.5 and 6 explain that *'The DEMP will be subject to the approval of the local planning authorities. The decommissioning would include the removal of any permissive paths and potential reversion of grassland underneath the PV Arrays. Any landscape structural planting, such as tree planting, hedgerows, scrub etc created to deliver biodiversity mitigation and enhancement associated with the Proposed Development would be left in-situ when the Site is handed back to landowners. Decommissioning is anticipated to take approximately six to twelve months'*.
- 3) ES Ch 5 para 5.18.7 states that *'the effects of the decommissioning phase are often similar to, or of a lesser magnitude than the effects generated during the construction phase and have been considered in the relevant sections of the ES'*.

4.3 Mitigation, Enhancement & Compensation

- 4.3.1 ES Ch 5 summarises some of the proposed mitigating measures. In terms of mitigating certain landscape and visual effects, LVIA paras. 6.4.1 - 8 describe the measures which have been 'embedded' in the scheme layout and design. Para. 6.4.9 deals with the mitigating measures proposed during the construction and decommissioning phases.
- 4.3.2 However, as mentioned above, in the LVIA, there appears to be some confusion about the difference between mitigation and enhancement, so these matters are discussed further in Section 5.1.

5. Assessment of Effects and Review

The previous sections describe the existing baseline landscape and visual situation, and the proposed development. This section sets out my conclusions about the landscape, visual and other related effects likely to arise from the proposals. An overview of the assessment approach and method is provided in Section 2.2 above, and augmented below where relevant.

This part of the process answers the following questions posed in Section 2.2:

- How important / valuable is what is there, to whom, and why?
- Is what is there / are those who see it tolerant of, or susceptible to, the type of change proposed?
- How, and to what degree, will the proposed change affect what is there and those who see it?

This section also sets out the findings of my review and analysis of the Applicant's information, and compares the results of my own assessment with those of the Applicant's LVIA / other relevant assessments.

5.1 General Points

LVIA method and process

- 5.1.1 The Applicant's LVIA does follow the steps set out in GLVIA3, but there are certain **fundamental errors and flaws in the LVIA's approach and method**. Where relevant, especially to judgements made about levels of effects and conclusions drawn, they are set out in this section. Of particular concern are the **lack of baseline information, lack of analysis of the information provided, erroneous / unfounded assumptions, and lack of transparency in the reasoned justifications for judgements and conclusions**.

Study area boundary

- 5.1.2 The Applicant's maps and plans show the site's location, but mainly within its immediate context, not that of the wider area. As noted in the previous sections, and discussed further below, the very large extent of the main site, and the very long construction route, means that there would be high degrees of interinfluence / intervisibility between the site and landscapes / features many miles away, with the potential for effects to extend as far as the limits of interinfluence / intervisibility – see for example Plan A (1:25,000 OS map extending c. 10km from the main site boundary), and Plans B – F in Appendix CT-A.
- 5.1.3 In my opinion, **the study area boundaries set in some of the applicant's assessments are drawn far too tightly, and the Applicant has not satisfactorily established whether or not significant effects would result beyond them**.
- 5.1.4 LVIA para. 6.2.1 states that '*a 2km study area from the Solar PV Site and Onsite Substation was considered appropriate*'. **I fundamentally disagree that a 2km study area boundary is appropriate or sufficient for a development of this industrial nature and very large scale**.
- 5.1.5 Most importantly, I consider that **the 2km boundary was drawn prematurely**: the potential for significant effects to arise was scoped out before the technical assessment of effects was carried out, and as far as I could ascertain, without the benefit of any computer-generated images to show what would be visible.
- 5.1.6 Para. 6.2.1 goes on to explain the reasons for the 2km study area boundary; it says, '*It is accepted practice within LVIA that the extent of the study area is informed by the visual*

*envelope arising from the Proposed Development based upon the Zone of Theoretical Visibility (ZTV) study (as discussed below) and fieldwork'. Para. 6.3.13 also explains that 'The ZTV's [sic] modelled at 3.3m and 13m height were used within the baseline study to determine the extent of the study area'. I also fundamentally disagree with the assertion that **the extent of the study area should be informed by the visual envelope arising from the Proposed Development**; this statement demonstrates a **lack of understanding of the difference between landscape and visual effects**, which is fundamental to LVIA.*

- 5.1.7 Study area boundary-setting is discussed in GLVIA3 para. 5.2, which explains the correct procedure (my emphases): *'The study area should include the site itself **and the full extent of the wider landscape around it which the proposed development may influence in a significant manner. This will usually be based on the extent of Landscape Character Areas... however, it may also be based on the [ZTV], or a combination of the two***'. That is because there may be close physical / cultural / other associations / relationships between landscapes / features / habitats at a landscape scale, but **they are not necessarily visible**.
- 5.1.8 Visibility depends on topography, elevation, and angle of view. In fact, in this case, **the main site would be visible from elevated viewpoints at distances of over 5km** (see visual effects below).
- 5.1.9 I also note that the study area for the Applicant's heritage assessment only extends to 10km from the **centre** of the site (ES Volume 2 Appendix 8.4: Cultural Heritage Impact Assessment (CHIA) (November 2022) para. 2.3). I find that extraordinary, given that the site is almost 8km from west to east, and at its widest point c. 5.5km from north to south, and that my assessment concluded that heritage assets up to 10km from the main site boundary were relevant, particularly in terms of them making important contributions to the landscapes within which the proposed development is located, and also in terms of potential / likely association / interinfluence / intervisibility between the assets and the developed site. They are also relevant to gaining an understanding of the routes that visitors in particular may be taking, which needs to be factored in to assessments of effects.
- 5.1.10 Also, the CHIA only covered the areas within which solar panels and other scheme elements are proposed (c. 350ha).
- 5.1.11 Nonetheless, para. 3.37 of the CHIA states that *'Archaeological remains dating to the prehistoric period are in abundance within the Site and its environs'*.

Baseline information

- 5.1.12 **The baseline landscape character information provided in the LVIA is inadequate**, and certainly not sufficient for a full understanding of the likely effects of a development of this scale and nature to be gained. The majority of the baseline information is taken from published character / other assessments, which cover large geographical areas and do not allow for localised variations. Very little analysis of historic landscape character was carried out, despite, as noted above, the CHIA having identified abundant remains on and around the site (and significant time depth). Indeed, the site covers a large proportion of the landscapes which lie in between the RPGs and other high value heritage assets which surround it.
- 5.1.13 The LVIA briefly describes the site's location, and the main settlements, infrastructure and PRoWs in the local area. It notes some of the designated landscape features (but very few), and the local / site's topography. LVIA para. 6.3.1 states that *'the Order limits cover approximately 852 hectares of gently undulating arable farmland'*, and para. 6.3.3 describes the landscapes of the site as follows: *'The land use within the Order limits is predominately arable farmland with medium-to-large scale field enclosures subdivided by hedgerows, treebelts and mixed woodlands or spinneys'*.

5.1.14 I could not find any detailed descriptions of the site's landscape elements and features in the LVIA, and no indication as to whether these are typical / characteristic, what they contribute to character, visual amenity and so on. GLVIA3 makes it very clear (eg para. 5.4) that these must be identified and described, along with other factors such as '*landcover, including different types of vegetation and patterns and types of tree cover*'.

5.1.15 However, some of the elements such as hedgerows and landcover are described in ecological terms in ES Volume 1 Chapter 7: Ecology and Biodiversity (November 2022) (para. 7.3.21 states that '*All the hedgerows onsite are considered to meet the description of the Hedgerows HPI [Habitat of Principal Importance]*'; others are described in heritage terms in the CHIA (para. 3.119 helpfully explains that **some of the on-site hedgerows are categorised as 'important' under the 1997 Hedgerow Regulations**).

5.1.16 This and other associated matters are dealt with further in the following sections.

Project description

5.1.17 **The LVIA did not factor in all the scheme elements and activities likely to affect landscape character and visual / social amenity.**

5.1.18 This matter is also dealt with in the sections below where relevant.

Nature of effects

5.1.19 **The LVIA did not consider the *nature* of many of the effects on character and visual amenity that would arise during construction, operation and decommissioning.**

5.1.20 This matter is dealt with in Section 5.3 below.

Mitigation, enhancement and compensation

Double-counting mitigation and enhancement

5.1.21 It appears that the LVIA assessors do not understand the difference between mitigation and enhancement, since **the LVIA double-counts mitigation measures as enhancements / scheme benefits.**

5.1.22 The difference is explained in GLVIA3 paras. 4.21 - 4.23: in summary, mitigation measures are those which are specifically required to avoid / reduce levels of effects. They cannot be double-counted as benefits / enhancements (or compensation). If mitigation is not feasible / appropriate, then compensation may be required. Enhancements are proposals that are not required to mitigate adverse effects, so they can be counted as a scheme benefit.

5.1.23 The confusion is clear in LVIA para. 6.2.10, which states that '*there are **many positive effects that would arise through the proposed landscape mitigation and enhancement measures which have been taken into account within this assessment***', and in para. 6.2.5, which states that '*the LVIA has identified a number of areas where **proposed** woodland and hedgerow planting would **assist with the mitigation of** the identified visual effects*'.

5.1.24 Para. 6.4.3 lists the landscape mitigation and enhancement measures which were 'embedded' into the design of the proposed development, but it does not differentiate between mitigation and enhancement, and occasionally conflates them, for example, bullet c. notes '*Substantial new native planting across the Solar PV Site providing **visual screening and other benefits to landscape character***' (see also conflating landscape and visual effects below).

5.1.25 Para. 6.4.9 sets out a list of '*measures to **minimise the landscape and visual impacts** of the construction and decommissioning phases of the Proposed Development*', which include '*b. Landscape and biodiversity management and **enhancement** measures including replacement tree planting (where relevant)*'.

- 5.1.26 The implication of the above is that judgements made about levels of effect are skewed, with **levels of effects being reported as lower than they would actually be.**

Vegetation growth rates

- 5.1.27 The LVIA explains that in order to help screen / filter certain views of the proposed development, in some cases, new tree and hedge planting would be required, and in others, existing hedges would be allowed to grow taller than the heights at which they are usually maintained. This is discussed further in the following sections, but **I have concerns about the assumed plant growth rates.**
- 5.1.28 LVIA para. 6.2.5 explains that *'The assumed growth rates [are] at 0.5m per annum for the proposed woodlands, hedgerows and trees'*. However, it goes on to say that rates of growth depend on many factors, including *'soil type, nutrient and water availability, competition, maintenance and the effects of climate change'*. It also states that on the basis of a 0.5m per annum growth rate, *'the partial visual screening of the PV arrays at 3.3 metres agl would take approximately 6-7 years as the proposed hedgerows establish'*. Para. 6.5.10 states that *'Over time, the scale of effects would generally reduce as the proposed vegetation establishes to gradually screen or filter views of the Solar PV Site and Onsite Substation in the long term by year 15'*.
- 5.1.29 In my experience of developments such as this, the assumed growth rate is optimistic. The following photographs show the effects of proposed screen planting at solar sites in the UK (taken and sent to me by others), approximately five and eight years after planting respectively.





- 5.1.30 Furthermore, the LVIA assumes that the hedges would eventually screen views of the developed site, but does not state how high they would have to grow to achieve this: **some of the arrays would be on rising ground**, so hedges would have to grow very tall to screen them.
- 5.1.31 In addition, the LVIA assumes that the screening would reduce levels of visual effects, whereas in some cases, **the loss of the existing view due to the screening gives rise to a high level of magnitude of effects** (see visual effects in Section 5.4 below).

Reliance on vegetation to screen views

- 5.1.32 The LVIA places a great deal of reliance on both existing and proposed vegetation to screen / filter views of the proposed development. However, it is very important to note that these days, experts **do not recommend relying on either existing or proposed vegetation to screen views in the longer term**, since there is no guarantee that it will remain (or in the case of new planting, establish in the first place).
- 5.1.33 There are many reasons for this, some of which are mentioned in the LVIA: '*soil type, nutrient and water availability, competition, maintenance and the effects of climate change*'. To this list must be added: deliberate removal (authorised, for example forestry plantations, or unauthorised); accident; erosion, decline and death from intensive landuse / pollution / pests and diseases (Ash dieback is prevalent in the area); inappropriate species selection for situation / wrong planting specification / inadequate soil preparation; or a combination of these and other factors.
- 5.1.34 As mentioned and illustrated above, in reality, solar farms and other developments of this nature often suffer from a lack of after-care, meaning that **the proposed mitigation and enhancement measures are not as effective as assumed in the assessments**.
- 5.1.35 Notwithstanding this, it is still necessary to factor existing vegetation in to visual assessments, but it is important to note the nature of the vegetation - for example, is it a large block of

native woodland with an assumed high degree of permanence (subject of course to the above factors), or a mature forestry plantation due to be felled, or a thin, overgrown hedge which may be cut back at any time? In addition, the assessment should note whether screening of views by vegetation is likely to be year-round or seasonal, and the degree of screening - some views may only be partially-screened, or 'filtered' by vegetation. **The LVIA does not provide this information.**

Other proposed mitigation / enhancement / compensation measures

- 5.1.36 As noted previously, LVIA para. 6.4.3 lists the landscape mitigation and enhancement measures which were 'embedded' into the design of the proposed development, but it does not differentiate between mitigation, enhancement and compensation, and occasionally erroneously conflates them, which has implications for judgements made about levels of effects (ie if enhancements / benefits were factored in and balanced with negative effects when in fact they were mitigating / compensation measures).
- 5.1.37 An example of this is at para. 6.5.15, which states that *'The new native trees and hedgerows are intended to **compensate** for any unavoidable losses and to **enhance the visual screening of the development**. This would result in an **overall net gain** of the site's native tree and hedgerow resource in the long term'*, and would also make a *'long-term contribution to the character of the Order limits'*.
- 5.1.38 Another element of the proposed development where it is not clear whether it is proposed as mitigation, enhancement and compensation is set out in para. 6.4.3 k), which proposes the *'Creation of 4 new permissive paths within the Solar PV Site and new areas for nature interpretation boards and community engagement within the West Glen River corridor'*.
- 5.1.39 Whilst it would be helpful if these uncertainties could be clarified, it may not make any difference to people in the affected communities who it is assumed would use / appreciate the permissive paths and other facilities, as **the majority of those I spoke to / communicated with were not enthusiastic**. One wrote to say that *'The feedback from residents is they don't want picnic benches, or interpretation boards dotted all over the site. The very area along the West Glen River you want to become a haven of bio-diversity will be destroyed by litter and disturbance if you over commercialise its presence. This shows a lack of understanding of what is important to the local community. You talk about allotments and community orchards, but make no mention of where they would be suitably sited, surely not down by the West Glen River as well?'*.
- 5.1.40 It was also pointed out to me that there could potentially be a problem with the paths in the longer term, and a concern, in terms of how it would be ensured that the proposed permissive paths stayed open for the duration of the scheme, given that landowners usually need to shut permissive paths **before they have been in use for twenty years**, otherwise **their permissive status disappears and they become established footpaths**.

LVIA criteria

- 5.1.41 The approach to and method used for the LVIA is set out in ES Volume 2 Appendix 6.2: Landscape and Visual - Assessment Methodology (November 2022).
- 5.1.42 Appendix 6.2 sets out the criteria that were used in making judgements about landscape and visual levels of value, susceptibility to change, and magnitude of effect. However, in my opinion, the LVIA's criteria were very brief, and **did not include many of the factors that are relevant to such judgements** (compare with my own assessment criteria in Appendix CT-C LVIA criteria).
- 5.1.43 Also, although there may be split categories, the LVIA uses a three-point scale for levels of susceptibility to change, but four for value and magnitude of effect, which is odd and may

skew the results. Also, in my experience, **a five-point scale is much better when a more granular analysis is required**, as is the case here.

- 5.1.44 Where this matter is relevant to judgements about levels of sensitivity and effects, it is noted below.

Conflating landscape and visual effects

- 5.1.45 The LVIA assessors appear **not to have applied key differences / distinctions between landscape and visual effects**, and as a result, they have been conflated.
- 5.1.46 Effectively, it has been assumed that measures proposed to reduce levels of effects on views would also reduce effects on landscape character, **which they would not**. This is a fundamental error, which is evident throughout the LVIA landscape effects section.
- 5.1.47 Para. 6.4.3 bullet c. states that '*Substantial new native planting across the Solar PV Site providing **visual screening and other benefits to landscape character***'. Para. 6.5.18 states: '*The effects on the landscape character would include the physical and visual effects... the Proposed Development would also affect those LCA located beyond the Order limits depending on the **degree of intervisibility**, the surrounding context and **location within the ZVI***'. Para. 6.5.19 states: '*The Proposed Development would change the perception of the primary land use from arable farmland to a solar PV development in some viewpoints*'.
- 5.1.48 Para. 6.4.20 states that '*Medium scale effects would occur in the immediate context of the Solar PV Site, Onsite Substation and Grid Connection Route. This would generally include **from the highway and PRow beyond field boundaries or from the field gate openings overlooking the Solar PV Site**. Within this area, the mass, scale and form of the Solar PV Site and Onsite Substation would form **a noticeable change to landscape character in some viewpoints**, albeit partly screened by intervening hedgerows or woodland*'.
- 5.1.49 In fact, the landscape effects are almost exclusively described in terms of how they would be perceived, with very little explanation or description of exactly how the character of the landscape would be altered, especially its individual elements and features.
- 5.1.50 The main implication of the conflation error is that levels of effects on character are under-reported, due to the erroneous assumption that if the proposed development is not visible, then character is not affected, which of course is not the case. As GLVIA3 makes perfectly clear throughout, landscape and visual effects must be assessed separately, because **effects on landscape character can arise from change / new development regardless of whether or not anyone can see it**.
- 5.1.51 Thus, **the proposed screen planting would not reduce the levels of adverse effects on landscape character - they would remain at the same level throughout the operational phase of development**.
- 5.1.52 In addition to this, **tall hedges are not characteristic in this open landscape**: the descriptions of the landscape character types which cover the landscapes within and around the Order limits include '*close trimmed hedges alongside large arable fields give a more open feeling to the landscape. This is particularly so in the extreme eastern corner of the County, between Ryhall and Essendine*'.

Fencing

- 5.1.53 As mentioned in Section 4.2 above, deer-proof post-and-wire fencing is proposed throughout the development, as a security measure, and it would remain in place for the lifetime of the scheme (albeit perhaps with restoration / replacement at times). In order to allow the continued passage through the site of larger creatures such as badgers, hares and otter, once

erected, either the fence would be modified to allow 'clearances above ground', or 'mammal gates' would be cut into the fence at strategic locations.

- 5.1.54 The landscape and visual (and ecological) effects assessments were carried out based on this assumption.
- 5.1.55 However, in my experience, **it is highly likely that the fencing would have to be far more robust than post-and-wire in order to deter thieves and satisfy insurance requirements.**
- 5.1.56 In February 2023, a document called *Theft From Solar Farms* was published. It was written by Crime Intelligence, and Opal, the latter being the 'Police unit for the United Kingdom developing intelligence to disrupt organised networks involved in acquisitive crime in partnership with the public / private sector'.
- 5.1.57 The report explains that '*In recent years, solar cable has been the item that has been targeted most frequently, and in the last year the rate of cable thefts has shown an increase of 48% from 2021 to 2022 (though remains lower than the reported rate in 2020.) However, **thefts of solar panels have quadrupled from 2021 to 2022**' (my emphasis).*
- 5.1.58 It goes on to say that '*The police force areas that have reported the most amount of crimes on solar farms in 2022 are West Mercia, Nottinghamshire, Cambridgeshire and Kent*'.
- 5.1.59 I have also read several documents produced by, and letters / consultation responses to solar development applications from, Design Out Crime Officers (DOCOs), and have spoken to some of them, about the issues faced by the Police due to 'solar crime'. This is apparently mainly panel and / or cable theft, but also vandalism – the wire netting is easily and quickly cut through. It occurs much more frequently in rural areas, as the activity often goes unnoticed, giving thieves more time to take what they want.
- 5.1.60 In recent responses to planning applications for solar development (and an appeal), several DOCOs have said that the use of deer-proof fencing should be avoided⁹, and have recommended the use of high-security fencing to a minimum of LPS 1175 level 3.
- 5.1.61 In an email dated 9th December 2022, the Northumbria Police DOCO commented on a solar development proposed in Northumberland (application ref. 22/03978/FUL), as follows (my emphases):

*'Northumbria Police support the drive toward renewable energy sources but nationally there has been an increase in serious attacks directed at solar arrays, only last week there were three attacks on sites in four days in Nottinghamshire and Cambridgeshire, and in the former a security guard on a solar farm under construction was violently attacked. The National Infrastructure Crime Reduction Partnership (NICRP) and Opal, the national taskforce set up to combat Serious Organised Acquisitive Crime called on solar farm operators to review their security arrangements^[10], so **it is worrying that this application doesn't consider the crime risks.***

*'We have considered the risk profile of a number of solar arrays planned for the Northumbria Police Area and have determined that remote sites should be protected by perimeter security fencing specified to **LPS 1175 issue 8.1 D15 fencing** [explained further in the DOCO's email; see also below].*

'The rationale for this, particularly important for remoter sites, is that a standard fence may deter the casual more opportunistic criminal, but not an organised attacker, and detection by remote CCTV or Perimeter Intrusion Detection Systems might inform a monitoring station that

⁹ See for example Nottinghamshire Police's response to 22/02241/FUL, and West Mercia Police's response to APP/C3240/W/22/3308481

¹⁰ See for example <https://www.nicrp.org/news/2023/2/solar-farm-crime/>

an attack is in progress, but a response still has to travel to the site, so we need to delay an attack as long as possible'.

- 5.1.62 I was not familiar with the security fencing specified by the DOCO, and couldn't find much information about it online, so called a few security fencing manufacturers and suppliers, who told me that this type of fence was not yet manufactured or supplied in the UK. When I mentioned this to the DOCO, he said he was aware, but in his opinion, that level of security was necessary for solar developments, and therefore eventually, demand would be created.
- 5.1.63 However, I did discover that one could probably achieve the D15 security rating by putting a D10 and a D5 fence together.
- 5.1.64 I also discovered that some of the insurance companies which cover solar developments are now stating that they will **not accept stock-proof fencing**.
- 5.1.65 Recently, a colleague of mine spoke to a 'leading renewable energy insurance broker', and in an email, said they were told that *"unless a new insurer is willing to risk deer fencing so as to gain market share, the trend now is for a deer fencing solar site to be refused insurance, or to be hit with an excess such as £100,000 if the deer fencing is breached by criminals. Instead of deer fencing, most insurers now request the security fencing the DOCO recommends because of the increasing crime risk. The bigger and more 'porous' the site, the bigger the risk, she said"*.
- 5.1.66 Another colleague spoke to a different insurance company, and in an email, said, *"He confirmed that **there are a decreasing number of companies who are willing to insure sites and no one will be allowed to just use deer fencing**- even a small domestic site with a few ground mounted panels. They will need secure locked gates with bollards that sink into the ground. 24/7/365 CCTV monitoring... He was telling me about a theft from a site he dealt with where the whole infrastructure was found in the Ukraine"* (my emphasis).
- 5.1.67 **This matter must be clarified**, not least because certainly, in terms of levels of landscape and visual effects, there is a **significant difference** between deer-proof fencing and D10 / D15 / other appropriate high-security fencing, as shown in the following photographs:

Deer-proof post-and-wire fencing at solar site in Worcestershire



Example of LPS 1175 level 3 security fencing from catalogue



Examples of D10 – D15 security fencing from catalogues





- 5.1.68 It is very difficult to calculate the length of fencing that would be required in this case, but it is likely to be **many linear kilometres**, given the extent of the main site (almost 8km from west to east, and at its widest point c. 5.5km from north to south), the complexity of the site boundaries, and the number of roads and other PRowS around / within the Order limits (the footpaths / bridleways crossing the site would be fenced along both sides of the corridor).
- 5.1.69 In my opinion, there is no doubt that **if this type of security fencing was installed, it would give rise to significant adverse landscape and visual effects, which could not be satisfactorily mitigated.**
- 5.1.70 The change from deer-proof to high-security fencing would also have **adverse implications for wildlife**. Para. 7.2.2 of ES Volume 1 Ch 7: Ecology and Biodiversity (November 2022) states that '*fragmentation of badger foraging habitat will be avoided with measures intended to keep the Proposed Development permeable by creating gaps accessible by badgers in security fencing, such as mammal gates as set out in the OLEMP*'.
- 5.1.71 At para. 3.1.14, under the heading *Installation of gaps for mammals*, the oLEMP explains that '*The ground underneath the PV Array will provide suitable habitat for a range of mammal species and as such access for these under/through the security fencing will be provided to allow badger, brown hare, polecat and hedgehog to move through the Order limits and forage over the grassland beneath the PV Arrays. Gaps measuring 30cm x 30cm will be created at ground level at all fenced PV Array perimeters, with access point provided at several locations in each fence alignment, as appropriate to the surrounding habitats*'.
- 5.1.72 However, according to the manufacturers, not only would it be **very difficult, time-consuming and costly to create mammal passes in the high-security fences**, it also would almost certainly **render the security rating invalid**.
- 5.1.73 If it was concluded that the high security fencing should take priority over the proposed ecological mitigation measures in the form of mammal passes, then **the ecological effects of the development without the mammal passes would have to be reassessed accordingly**.

Significance

- 5.1.74 LVIA para. 6.1.7 states that '*Diagram 1 below shows how the sensitivity of the landscape and visual receptors are combined with the magnitude of change arising from the Proposed Development to determine the overall significance of effects*'. **This approach is incorrect, and not in accordance with GLVIA3.**
- 5.1.75 I am familiar with the diagram referred to: the original is called '*Figure 6.3 EIA significance evaluation matrix*'; however, I do not know where it is from – possibly a publication by the Institute of Environmental Management and Assessment (IEMA). In any case, it is quite old, and it does not conform to GLVIA3's method for establishing levels of significance (as it had caused some confusion amongst inexperienced practitioners, the matter was later clarified in Part 3 of the Landscape Institute's publication *GLVIA3 Statement of Clarification 1/13 10-06-13*).
- 5.1.76 The correct procedure in establishing whether effects are 'significant' or not is as follows:
- Assess levels of effects in the usual way, ie level of sensitivity (based on levels of value and susceptibility to change) + level of magnitude of effect = overall level of effect.
 - Report overall levels of effects.
 - State the threshold at / beyond which effects would be considered 'significant' (eg 'moderate to major').
 - Report which effects are at / exceed the threshold and are therefore 'significant'.
- 5.1.77 LVIA para. 6.1.8 does, however, state that '*Effects that are Major or Major-Moderate are considered to be significant. Effects of Moderate significance or less are "of lesser concern"*', although in my experience, **the threshold for significance is more commonly set at 'Moderate'**, and in my opinion, that level would be more appropriate in this case (see GLVIA3 paras. 3.32 – 36).

5.2 Landscape and Visual Sensitivity

- 5.2.1 In the LVIA process, levels of overall effects on landscape character are established by combining levels of i) landscape sensitivity and ii) magnitude of effect. Levels of landscape sensitivity are a combination of levels of landscape value and levels of landscape susceptibility to change. Levels of landscape value and susceptibility to change are determined through analysis of the information which has been gathered during the baseline studies.

Landscape value

- 5.2.2 Landscape value is defined in GLVIA3 (para. 5.19) as '*The relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a whole variety of reasons*'; the guidance explains how levels of landscape value are established through the assessment process.
- 5.2.3 The criteria which have been used in formulating judgements about landscape value in the Applicant's LVIA are set out in Table 2 of ES Volume 2 Appendix 6.2: Landscape and Visual - Assessment Methodology (November 2022). A four-point scale has been used: from highest to lowest, the categories comprise i) National / International, ii) Local / District, iii) Community, and iv) Limited.
- 5.2.4 However, the value factors provided in the associated commentary **do not explain which value factors have been taken into account for each category**. The criteria which I use when making judgements about levels of landscape value are set out in Table 2, Appendix CT-

C; this is a five-point scale ranging from Very High to Very Low. These criteria provide detailed explanations of the value factors.

- 5.2.5 The LVIA concludes (para. 6.3.73) that *'the landscape within the Order limits would be of Local / District Value'*. Broadly, I agree with this conclusion, although **there are also national value factors within the study area, and other value factors that the LVIA did not consider**, which are of relevance to the assessment of effects (explained further in the effects section).
- 5.2.6 My assessment concluded that with my criteria, the main site's level of landscape value was **between Moderate and High**, which I consider just about equates to 'Local / District' in the LVIA's criteria, although the national and other value factors (see below) should really result in a higher, split category (ie between 'Local / District' and 'National / International').
- 5.2.7 Para. 6.3.72 explains that *'Within the Order limits and its surroundings there are a range of landscape features and characteristics that contribute to the value of the local landscape as further outlined within the Landscape Institutes TGN02/21 Assessing landscape value outside national designations'*. The list of value factors is set out. However, **the list does not include many of the relevant factors set out in TGN 02/21** (I was a member of the working group which advised on its production; the TGN is intended to be complementary to GLVIA3).
- 5.2.8 For example, Table 1 of the TGN sets out the 'range of factors that can be considered when identifying landscape value'. Those which were either not mentioned / factored in to the LVIA, or about which very little relevant information was provided, include:
- Natural heritage
 - Cultural heritage
 - Landscape condition
 - Associations
 - Distinctiveness
 - Perceptual (scenic / wilderness / tranquillity)
 - Functional (in terms of what the landscape contributes to, for example, ecosystem services, GI, hydrological systems / floodplains, and so on).
- 5.2.9 GLVIA3 para. 5.19 explains that *'Value can apply to areas of landscape as a whole, or to the individual elements, features and aesthetic or perceptual dimensions which contribute to the character of the landscape'*.
- 5.2.10 Many of the value factors identified in my own assessment are set out in Section 3 above. I also took into account the findings of the Applicant's ecological, heritage, arboricultural and other assessments, which provided some of the necessary information.

Value: cultural heritage

- 5.2.11 The site and surrounding areas have **relatively high levels of historic landscape value**, due to there being significant time depth: a rich and diverse range of both visible and buried archaeology dating from the Lower Palaeolithic or Old Stone Age (which began in Britain c. 950,000 years ago (YA)).
- 5.2.12 CHIA para. 3.39 notes that Lower Palaeolithic finds on the solar PV site illustrate its potential to contain Palaeolithic artefacts or palaeoenvironmental remains.
- 5.2.13 Para. 3.41 suggests 'significant' settlement on the site dating from the Mesolithic (c. 11,300 – 6,300 YA) / Early Neolithic (c. 6,100 YA). Para. 3.42 notes Neolithic finds within the site, potentially associated with a scheduled Neolithic causewayed monument located c. 180m south of the site.

- 5.2.14 According to para. 3.43, *'The Site is located within a landscape of potential prehistoric funerary activity, with multiple recorded possible Bronze Age (c. 4,500 YA) barrows'* within the site. It suggests that these could be associated with prehistoric features in the vicinity of the site to the south and south-west. A Bronze Age feature lies along the proposed construction route.
- 5.2.15 Para. 3.45 confirms the presence of Late Bronze Age / Early Iron Age settlement within the site, and Iron Age (c. 2800 YA) settlement / activity.
- 5.2.16 Para. 3.16 notes that excavations at the site of Ryhall substation revealed a Late Bronze Age / Early Iron Age unenclosed settlement, and that *'Given the rarity of potential unenclosed settlements within the region of Rutland, the site is of regional importance'*.
- 5.2.17 Paras. 3.50 – 55 describe Romano-British finds and features indicating *'settlement, agriculture and burial practices'* located within and in close proximity to the site, and along the construction route (including at Great Casterton). A Roman (4th century CE) stone sarcophagus was recovered from the site, which contained *'a male skeleton with two glass vessels and a dish'*.
- 5.2.18 Paras. 3.56 – 3.73 describe the Early to Late Medieval features within the CHIA study area, many of which comprise the villages adjacent to / surrounding the site and the landscapes associated with them. In terms of historic landscape character, Medieval influences are visible throughout the study area, and the site and its contextual landscapes are **strongly characterised** by this. Para. 3.62 explains that in Medieval times, *'The Site was likely to have been rural in character with dispersed woodland throughout the medieval period, being the agricultural hinterland for the surrounding villages'*, which is how it appears today. 'Extensive' ridge-and-furrow remains have also been found within the site.
- 5.2.19 Despite changes in landuse and management practices, when travelling along the quiet local lanes and trackways – many of which are ancient routeways, lined with old, species-rich hedgerows – one can certainly still experience a sense of the landscapes' more distant and bucolic past.
- 5.2.20 The landscapes' post-Medieval (from the late 15th century) and more recent history are described in paras. 3.74 – 3.105. Para. 3.74 concludes that ***'The Site and study area appear to have retained an essentially rural character throughout the post-medieval and modern periods'*** (my emphasis).
- 5.2.21 From the earlier parts of this period, features of landscape / visual value / interest within / adjacent to the site include woodland and field boundaries dating from at least 1794; 18th century gravel pits; old trackways and ancient hedgerows, some delineating parish boundaries; remains of medieval strip fields; natural and man-made watercourses / drainage systems, and 'multiple' ponds; 19th century farmsteads; and former deerparks / historic parklands. The railways also influenced the landscape's character, and continue to do so even when dismantled.
- 5.2.22 The site's historic landscape characterisation is predominantly categorised as 'Very Large Post-War Fields'.
- 5.2.23 Electricity pylons and overhead cables cross parts of the site, and there is a substation between Ryhall and Essendine. Industrial buildings now occupy the site of the former Essendine railway station.
- 5.2.24 The historical features make an important contribution to our understanding of the landscapes of the area and how their present-day character evolved. They are also key factors in what distinguishes one landscape / site from another. Furthermore, they are important factors in making judgements about levels of landscape and visual value and susceptibility to change, and magnitudes of effect, especially in terms of the **appropriateness or otherwise of**

certain forms of modern developments such as solar farms in distinctly historical landscapes.

Value: aesthetic and perceptual qualities

- 5.2.25 The LVIA does not appear to have considered, or assessed effects upon, the landscape's aesthetic and perceptual qualities. These are shown on *Figure 1: What is landscape?* in Natural England's 2014 (and still current) *An Approach to Landscape Character Assessment*, and comprise: memories; associations; preferences; touch / feel; smells; sounds; form; pattern; texture; and colour. In Section 5 2), the document deals with 'Perceptual / Experiential Factors', explaining that '*people's responses to landscapes are subjective, they are personal and influenced by the experiences of the individual. Factors include wildness, security, light quality, beauty, and scenic attractiveness, and some can be perceived / experienced by senses other than sight, such as smell / scent, tranquillity, noise, and exposure to the elements (wind and rain for example)*'.
- 5.2.26 My assessment concluded that **the site and surrounding areas' levels of aesthetic and perceptual qualities are relatively high**, especially in terms of **tranquillity**¹¹ - the definition of which in the context of LVIA is not just about noise: in Wales, the definition of tranquillity that has been adopted by both Welsh Government (Welsh Government 2012) and Natural Resources Wales (NRW 2016a) is '**An untroubled state, which is peaceful, calm and free from unwanted disturbances**. This can refer to a state of mind or a particular environment. Tranquillity can be measured in terms of the absence of unwanted intrusions, or by a balancing of positive and negative factors. These include **the presence of nature, feeling safe, visually pleasing surroundings and a relaxing atmosphere**'(my emphases).
- 5.2.27 LVIA para. 6.5.99 does note that 'The Order limits are generally located within relatively low ambient lighting levels' – ie – and as attested during my visits to the area – **there are places where dark skies can be experienced**.

Value in wind turbine study

- 5.2.28 Another reason why the LVIA under-reported the site and surrounding area's levels of landscape value could be that in its arguments / reasoned justifications for judgements made about levels of landscape value, and the extent of landscape / visual effects, it relies on a report titled *Rutland Landscape Sensitivity and Capacity Assessment – Wind Turbines*.
- 5.2.29 LVIA para. 6.3.47 explains that in September 2012, '*Rutland County Council commissioned a landscape sensitivity and capacity assessment in relation to wind turbine development in September 2012 for each of the LCA's as part of the evidence base for their Local Plan. The Rutland Plateau D(ii) Clay Woodlands LCA broadly covering the eastern and north-western parts of the Solar PV Site was considered to be of **low landscape value** as stated within Table 10 of the study undertaken by The Landscape Partnership (TLP) consultants*' (my emphasis).
- 5.2.30 However, it does not explain that the reason for the LSCA's low level value judgement was because '*the relative landscape value was based on the **presence of landscape designations' alone**, and the site is not covered by any landscape designation. Evidently, such a limited*

¹¹ For the definition of and further information about assessing 'tranquillity' and effects upon it generally, I rely on the Landscape Institute's Technical Information Note (TIN) 01/2017 (revised March 2017) on the subject, which was '*prepared for the purposes of providing an overview of what is understood by the term 'tranquillity' within the landscape profession and to inform any future discussions and actions on the topic*'.

approach is not appropriate here: the value studies need to be granular. See also visual effects.

Landscape susceptibility to change

- 5.2.31 There is very little explanation in the LVIA about how judgements about susceptibility to change were made.
- 5.2.32 In the context of landscape character, the term 'landscape susceptibility' is defined in GLVIA3 (para. 5.40) as *'the ability of the landscape receptor... to accommodate the proposed development without undue consequences for the baseline situation and / or the achievement of landscape planning policies and strategies'*.
- 5.2.33 What is very important is to consider the landscape and visual receptor's susceptibility **to the type of development proposed**, since susceptibility is not a character attribute, judgements about it are made on the basis of the available baseline information. For some reason, Table 1 in ES Volume 2 Appendix 6.2: Landscape and Visual - Assessment Methodology (November 2022) only gives a three-point scale for levels of susceptibility, and as with value, the factors provided in the associated commentary **do not explain which susceptibility factors have been taken into account for each category**.
- 5.2.34 Furthermore, I do not agree with the justifications which are provided in the method text as the basis for making judgements about levels of susceptibility to change. For example, para. 6.5.25 states, *'The Rutland Plateau Clay Woodlands LCA (Dii) is judged to be of Medium Susceptibility to the Proposed Development, **acknowledging the generally flat or south facing topography for enhanced solar gain***', which is not a justification for such judgements.
- 5.2.35 The criteria which I use are set out in Table 3, Appendix CT-C. Importantly, they include consideration of whether there is 'existing reference or context within the landscape to the type of change / development proposed', which the LVIA does not appear to have done.
- 5.2.36 What that means here is, because there are no other solar developments which have interinfluence and / or intervisibility with the proposed development, the landscapes have a Very High level of susceptibility to change in that regard; however, other criteria in lower categories also apply here; therefore, on balance, my assessment concluded that overall, and broadly (since there will be localised variations throughout the area), the level of susceptibility to change of the main site and surrounding area is **between Moderate and High**.
- 5.2.37 The LVIA's conclusions about levels of landscape susceptibility to change are set out, and discussed, in the effects sections below.

Landscape sensitivity

- 5.2.38 Levels of landscape sensitivity are the result of combining levels of landscape value and levels of landscape susceptibility to change, although the overall results should be tested and compared, and professional judgement must be applied.
- 5.2.39 The results of this part of the LVIA process are explained briefly in the text in LVIA Section 6.5, and summarised in LVIA Table 6-4.
- 5.2.40 The LVIA has **only considered the landscape sensitivity of two landscape character areas** (Rutland Plateau (Dii) Clay Woodlands, and Kesteven Uplands LCA), (both **Medium**), these being the typologies that cover the site and immediately surrounding landscapes; and the two former non-statutory Local Plan designations which covered the landscapes in the vicinity of the site (an Area of Particularly Attractive Countryside (APAC) approximately 0.5km to the north-west near Newell Wood and Pickworth; and an Area of Local Landscape Value (ALLV) approximately 0.85km to the west near Ryhall (these are also value factors).

5.2.41 The LVIA has **not assessed the sensitivity of – and therefore has not assessed effects upon – many of the individual landscape elements and features** (as they were not identified in the baseline studies, and the amount of loss was not quantified). GLVIA3 para. 5.35 explains that the assessment should consider the effects of '**change in and / or partial or complete loss of elements, features or aesthetic or perceptual aspects** that contribute to the character and distinctiveness of the landscape'.

5.2.42 My assessment concluded that the combination of the Moderate to High level of landscape value and the Moderate to High level of landscape susceptibility to change resulted in a **Moderate to High** level of landscape sensitivity (discussed further in the effects sections below where relevant).

Visual sensitivity

5.2.43 As with landscape character, judgements about levels of overall effects on views and visual amenity are arrived at by combining levels of visual receptor sensitivity with the proposed development's magnitude of effect. Judgements about levels of visual receptor sensitivity are arrived at by combining levels of peoples' visual susceptibility to change with levels of visual value.

5.2.44 The visual susceptibility to change of the people (or visual receptors) who experience views is mainly a function of a) their occupation or activity whilst experiencing the view, and b) the extent to which their attention or interest may therefore be focussed on the view (see GLVIA3 para. 6.32).

5.2.45 The LVIA uses the same criteria for visual susceptibility to change as those used for landscape, and the same shortcomings apply.

5.2.46 Judgements about levels of visual value take into account a) recognition of the value attached to particular views by people (thus it is essential firstly to identify and analyse the baseline landscape character factors which contribute to visual value), and b) indicators of the value attached to views by visitors, which may include featuring on maps / in published guide books (see for example *Will's Walks* in Appendix CT-C), the provision of parking spaces / facilities, and references in literature / art (see GLVIA3 para. 6.37).

5.2.47 In landscape and visual assessment, the factors which contribute to the very highest levels of visual value tend to be of international or national importance, for example where there are views from, or towards, designated landscapes and / or features of universal, international and / or national importance (eg World Heritage sites, national parks, scheduled monuments, Grade I or II* Listed Buildings, RPGs etc).

5.2.48 LVIA method Table 8 sets out the assessed levels of visual receptor sensitivity ('typical examples'), which I found hard to follow. For some reason, it combines levels of 'visual receptor sensitivity' with levels of 'susceptibility', which gives a score on a scale from 1 (highest) to 10 (lowest). But the numbers relate to the list below the table, which appear to indicate value factors. Otherwise, value does not appear to have been factored in to visual receptor sensitivity judgements.

5.2.49 The criteria which I apply when forming judgements about levels of visual value are set out in Table 7 in Appendix CT-C; those for the landscape's visual susceptibility to change are in Table 8, and for visual receptors' susceptibility to change in Table 9. The matrix in Table 10 shows how these are combined to arrive at theoretical levels of visual receptor sensitivity – at this point professional judgement is applied, and the preliminary findings are tested and compared before a final conclusion is drawn.

5.2.50 Levels of visual receptor sensitivity are discussed further in the effects sections below.

5.3 Effects on Landscape Character

- 5.3.1 As noted in the previous sections, in its assessments, the LVIA did not include several of the landscape receptors which exist on and around the site that would be directly and / or indirectly adversely affected by the scheme, some permanently. Nor did it consider many of the key factors which contribute to levels of landscape value, nor was landscape susceptibility to change properly dealt with. Thus, these receptors were not included in the assessment of effects.
- 5.3.2 Furthermore, **it did not describe, consider, or assess the effects arising from, many of the scheme requirements, elements and activities.**
- 5.3.3 LVIA paras. 6.5.1 – 6.5.10 set out a summary of the proposed development, and list the scheme elements which were included in the assessment of effects. Para. 6.5.2. states that *'The following key components would likely give rise to landscape and visual effects to varying degrees as described below'*, then lists the scheme elements as per the summary provided in ES Ch 5 para. 5.1.4. But this list is certainly not exhaustive, and does not describe the elements / activities in enough detail for a full assessment of landscape and visual effects to be made, plus there are several omissions: I had to augment the available information.
- 5.3.4 For example, the LVIA does not specifically describe the potentially highly industrialising / urbanising landscape effects arising from works such as fencing, signage, drainage, internal access tracks, and earthworks. It does **not quantify the amount of loss of vegetation nor specifically assess the effects of this**, although quite detailed information about the trees that would have to be felled / pruned in order to accommodate the proposals is set out in ES Volume 2 Appendix 15.2: Other Environmental Topics – Arboricultural Impact Assessment (AIA).
- 5.3.5 Indeed, very limited information is provided about the nature of the effects likely to arise, and very little explanation given as to how judgements about levels of magnitude were made, and what factors they were based on.
- 5.3.6 Perhaps this is due to the sheer size of the site, and the time it takes to travel around it to gain a general impression, let alone carry out detailed surveys of each nook and cranny, and on the whole, the smaller the site, the greater the level of scrutiny. However, in my opinion, just because a scheme is very large does not mean that it should not be subject to very granular assessments.
- 5.3.7 It is important to remember that many small, individual receptors may only be subject to relatively low levels of adverse effects, but that when they are combined, and cover a large area, **they may become significant.**

Nature and magnitude of landscape and visual effects

Nature of effects

- 5.3.8 The nature of the effects likely to arise from the proposed development throughout its lifetime, and which are likely to adversely affect landscape character and visual / social amenity, are set out below. This is mainly based on the information set out in the project description section (Section 4) above.
- i. Permanent features would include solar arrays (see magnitude and scale below); a large new substation with ancillary buildings / storage units (design, materials etc unspecified), and parking; masts; inverters; transformers; switchgears; containers / cabins / cabinets; earthworks / berms; drainage; watercourse crossings; new / widened access points; access tracks; hardstanding; CCTV; lighting; signage; and security fencing (see comments on proposed fencing in Section 5.1 above).

- ii. The proposed substation is so large that, in combination with the existing substation at Ryhall, it is likely to result in a **high degree of industrial coalescence between Ryhall and Essendine**. The proposed substation would also be highly visible, and almost certainly audible, in views from Essendine and the local PRoWs. See Plan I in Appendix CT-A, which shows the proposed substation superimposed on Google Earth, in its immediate landscape context.
- iii. Industrialising features and activities would be introduced into landscapes displaying natural beauty, tranquillity and significant time depth, which contain **no existing reference to the type of development proposed**.
- iv. This would result in a **permanent change** in landscape / historic landscape character from **agricultural / 'deeply' rural / tranquil**, to **modern / intensive / industrial / urbanised**.
- v. There would also be associated **negative changes in the landscape's positive aesthetic / perceptual qualities**, arising from disturbance / activity / movement / noise (vehicular, mechanical and human), clutter and paraphernalia associated with activities on site, lighting, bright colours, and glint / glare from the solar panels' and other reflective surfaces.
- vi. **Changes to / loss of the site's landscape function** and its **important contribution to local landscape character would occur**.
- vii. There would be (unquantified) **loss of / damage to existing landscape elements, features and landcover**: many found on and around the site are very good representations of both the national and local landscapes' key characteristics.
- viii. Temporary features / activities during the construction phase (of two years' duration) would include primary and secondary compounds, construction traffic movement including AILs and HGVs, plant, machinery, temporary lighting, passing bays, and other highway works.

Incidentally, LVIA para. 6.5.3 states that *'The passing places would be located entirely within existing highways estate and would not require any additional hedgerow removal. The passing places would be temporary and removed following the construction stage and reinstated to grass verges during the operational phase'*.

The LVIA does not appear to consider the implications of the construction of the passing bays on character or amenity, although in the table at para. 4.8.1, the AIA confirms that existing vegetation would be affected by their construction – see effects below.

In certain places where the bays are proposed, the verges are designated LWSs. ES Ch 7: Ecology and Biodiversity confirms that this would give rise to **'an adverse effect of significance at a District level'**. However, I note that is judgement is based on the assumption (in Ch 7 para. 7.6.3) that *'once the construction period is complete, these passing points will be removed, appropriate nutrient poor soil replaced on their footprint and a species rich grassland will be seeded'*. But **it is not clear whether the passing bays would need to be reconstructed during the decommissioning phase**, and if so, whether the effects of this have been assessed.

- ix. Construction / decommissioning traffic using the proposed routes within **and beyond** the Order limits has the potential to result in loss of / damage to verges (some designated SSSIs and LWSs, and hedges and trees, especially where overhanging roads).

ES Ch 7: Ecology and Biodiversity para. 7.5.2 states that *'During all phases, due to the nature of the Proposed Development, no direct adverse effects to statutory and non-statutory designated sites outside the Order limits are considered likely'*. However, the

ecological assessment does not appear to have factored in the potential for adverse effects on, for example, the Tolethorpe Road Verges SSSI which lies half-way along Ryhall Road, between Great Casterton and Ryhall. Ryhall Road is along the proposed construction route (Route 1).

The images overleaf show the nature of that route: the road is two-way but relatively narrow. Damage to the verges is evidently an ongoing problem, but the abnormally-large vehicles which would be required for this project are likely to exacerbate the problem.

Also, this road is used regularly by cyclists, but it is dangerous for overtaking.

Damage to Tolethorpe Road Verges SSSI, Ryhall Road (imagery Streetview ©2022 Google)



- x. There is also evidence of damage of verges along local lanes – apparently, this has increased since lock-down due to the increase in home-deliveries which has not subsequently abated much. There is no doubt that the construction traffic would significantly exacerbate this situation, and there are several locally-designated wildlife sites along the lanes – verges, hedges and other key landscape features.

Damage to verges along Uffington Lane



- xi. It is likely that during decommissioning and / or interim maintenance / panel replacement works, even if / where vegetation along the construction route had recovered / been restored, **similar damage / loss would occur again.**

- xii. During construction and decommissioning (and possibly during operation), there would be a variety of effects arising from activity / movement / disturbance; noise; odour; lighting; residues and emissions; dust; and potentially, pollution of soil, air and / or water.
 - xiii. There would be **significant changes to / loss of views / amenity** resulting from the above.
 - xiv. These and other effects are **highly likely to adversely affect many people's mental / physical health and well-being, and quality of life.**
 - xv. There could also potentially be **adverse economic effects**, for example in terms of people being deterred from visiting the area due to the two years' duration of the construction works and then the presence of the panels, resulting in a loss of local trade.
- 5.3.9 Normally, here I would list the nature of the effects which are likely to *positively* affect landscape character and visual / social amenity. However, as explained previously, the LVIA has double-counted mitigation measures as enhancements, and **I could not identify any landscape or visual enhancements or scheme benefits.** Indeed, **no positive landscape or visual effects are reported** in the summary of effects in LVIA Table 6-4 – the conclusion is that **all the landscape effects are adverse, and all the visual effects are either adverse or neutral.**

Magnitudes of effect

- 5.3.10 Judgements about the magnitudes of effect to which the various aspects of a proposed development is likely to give rise should take into account matters such as its size and scale, the geographical extent of the area influenced by any loss / change (which is considered at different scales, from national to site-level); the duration of the effects (taking into account seasonal changes as well as the 'lifetime' of the development); and their reversibility.
- 5.3.11 Whilst some of these matters may affect landscape and visual receptors to the same degree (for example in terms of nature, scale, duration, and reversibility), others will affect different receptors in different ways; for example, in landscape character terms, the geographical extent of what is proposed is usually clearly defined due to physical / cultural factors, whereas in visual terms, the extent of what is seen depends on factors such as the angle and elevation of the view, screening elements, mitigating measures and so on.
- 5.3.12 The LVIA's judgements about levels of magnitude are discussed in the effects sections below where relevant, but at this point it is worth stepping back from the magnitudes of effect arising from specific / individual scheme elements and / or activities, and looking at the **overall size and scale** of the proposed development, especially within the context of the wider landscapes and surrounding settlements.
- 5.3.13 From looking at the plans and reading the documents, it is very difficult to comprehend just how large the proposed development would be, and how complex the issues are – especially physical / environmental – that would have to be dealt with / overcome in order to get the development built.
- 5.3.14 The main site measures almost **8km from west to east**, and at its widest point is c. **5.5km from north to south**, with solar arrays / ancillary infrastructure occupying the majority of those extents.
- 5.3.15 The area of the Order limits is c. **852ha**, and the Solar PV area is c. **420ha**.
- 5.3.16 To put that into the context of the wider landscape, it is worth noting that **the whole of the settlement of Stamford, including its green spaces, covers c. 515ha.**

- 5.3.17 In fact, as far as I am aware, and as of the time of writing, **no solar development of the size and scale of Mallard Pass has yet been constructed in the UK**. Thus, effects arising from a solar development of a similar size and scale to Mallard Pass have never been tested.
- 5.3.18 The majority of solar developments with which I have been / am currently involved are **under 50MW**, probably due to that being the threshold for NSIPs, and **even many of these are refused on the basis of their large size and scale, and significant adverse effects on landscape character, visual amenity, and other aspects of the environment / people's lives**.
- 5.3.19 According to its website, Shotwick Solar Park in Wales (Deeside, Flintshire) is currently the largest operational solar park in the UK, with **72.2MW** capacity (site area c. **100ha**); Mallard Pass would be c. **350MW** (site area **852ha**). Also, Shotwick Solar Park is adjacent to an industrial area, not out in the open countryside like Mallard Pass.
- 5.3.20 The next-largest solar power stations which are currently operational in the UK are Lyneham Solar Farm in Wiltshire (69.8MW / c. 86ha); Owl's Hatch Solar Park in Kent (51.9MW / c. 86ha); Wroughton Airfield Solar Park in Wiltshire (50MW / c. 67ha), and West Raynham Solar Farm in Norfolk (49.8MW / c. 91 ha).
- 5.3.21 As far as I am aware, solar developments which are NSIPs and which have been consented but which are not yet operational comprise Cleve Hill Solar Park in Kent (**350MW / 360ha**): DCO granted on 28/05/2020, possibly now under construction; and Little Crow Solar Park in Scunthorpe (**150MW / 226ha**): DCO granted on 05/04/2022.
- 5.3.22 I also note that the ExA recommended the proposed Sunnica Energy Farm in Cambridgeshire / Suffolk (**500MW / 226ha**), but the final decision will be made by the SoS in due course.
- 5.3.23 When I first visited the site, I assumed that it wouldn't take me more than a day to carry out the baseline landscape and visual assessments; however, it took far longer than that, and entailed several visits. Even driving around the outskirts of the main site's boundary took hours, let alone the construction routes.
- 5.3.24 Regarding the construction routes, I find it extraordinary that it might be considered acceptable for HGVs and AILs to have to travel such long distances (which is in order to avoid giving rise to unacceptable levels of adverse effects), and it must be **highly unsustainable**.
- 5.3.25 For example, if an HGV's starting point was north west of the site, it would travel south down the A1 to the Great Casterton exit, and arrive at the primary compound via Route 1. The distance (by road) between the A1 Great Casterton exit and the primary compound is c. **7km**. If the HGV was going to return to its starting point, it would be obliged to follow Route 3 first north then south / south-eastwards as far as is shown on ES Figure 9.1 (ie Werrington, on the northern outskirts of Peterborough). After that it would presumably follow the A46 westwards, join the A1 at its junction with the A47, and then travel north-westwards to the A1 Great Casterton exit and beyond. Thus, the return journey between the primary compound and the starting point at the A1 Great Casterton exit is a distance of **c. 65km**.
- 5.3.26 Similarly, in order to reach the primary construction compound, an HGV with its starting point north east of the site, for example at Bourne, would have to travel south-eastwards along Route 3 to Werrington, follow the route described in the previous example north-westwards to the A1 Great Casterton exit, and then follow Route 1 to the site – a distance of **c. 60km**; yet the return trip from the compound to Bourne, travelling north along Route 1, is a distance of just c. **11km**.

Effects on landscape character during operation and construction / decommissioning

- 5.3.27 LVIA Table 6-4 sets out the findings of the landscape and visual effects assessments. In the first column, the landscape and visual receptors which were the subject of the effects

assessments are listed. The second and third columns respectively state the assumed extent of effect (ie just the site, or into the wider landscape), and the distance / direction of the extent.

- 5.3.28 The fourth column gives the assessed levels of a) value, b) susceptibility to change, and c) sensitivity. The fifth column gives the assessed levels of magnitudes of effect during construction, at Years 1 and 15 of operation, and during decommissioning. The sixth gives levels of residual effect (ie based on the assumption that all the proposed mitigating and enhancement measures have been included in the scheme, and have become fully effective as described and assessed), and states whether or not the level of effect is considered to be 'significant'. The seventh (final) column states whether the effects would be adverse, beneficial or neutral.
- 5.3.29 Below I deal with operational effects first, followed by effects during construction and decommissioning.

Effects on landscape character during operation

- 5.3.30 The scheme elements and activities which are likely to give rise to landscape, visual, social and other effects are described in Section 4 above; the nature of the landscape and visual effects are described in the first part of this section.
- 5.3.31 The first two receptors listed in LVIA Table 6-4 are the two landscape character areas which were assessed, both of which cover the site and immediate surrounds. The LVIA concludes that within both character areas, **the overall level of effect on the landscape character of the Solar PV Site would be Major Adverse (the highest level on the scale, and significant) at Year 1 of operation.** I agree with this conclusion, although the LVIA's method and reasoning are very different from mine.
- 5.3.32 In fact, I could not find a scale setting out the levels of overall effects in the LVIA report or method, but the term 'Major' was used (in terms of *'the relative importance of the effect, with Major being the most important and Minimal being the least'*) in the text in para. 1.1.29 of the LVIA method. What is confusing is that under the heading 'Magnitude of Effect', LVIA method Table 5: Scale of Effect gives a four-point scale of levels: Large, Medium, Small, and Negligible, and the criteria for Large are *'Total or major alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally changed'* (my emphasis).
- 5.3.33 However, the LVIA also concludes that at Year 15, the levels of residual effects would have reduced to Major – Moderate (**still significant adverse**), due to the proposed mitigating measures having become effective. **I disagree with this conclusion**, because as noted previously, the LVIA has **conflated landscape and visual effects**, and has thus **assumed that screen planting would reduce levels of effects on character, which it would not.**
- 5.3.34 As explained in Section 5.1 above, and as GLVIA3 makes clear, landscape and visual effects must be assessed separately, because **effects on landscape character can arise from change / new development regardless of whether or not anyone can see it.**
- 5.3.35 Thus, **the proposed screen planting would not reduce the levels of adverse effects on landscape character - they would remain Major adverse throughout the operational phase.**
- 5.3.36 The LVIA concludes that beyond the Order limits, at Years 1 and 15, the overall levels of effects on wider landscape character would be **Slight**, which is the result of Medium sensitivity landscape receptors combined with a Low magnitude of landscape effect.
- 5.3.37 Firstly, for the reasons set out above, **I disagree that the level of sensitivity of the landscapes of both the site and surrounding areas is Moderate** (or Medium – same thing), in my opinion the level is **Medium to High.**

- 5.3.38 Secondly, as with the problem with the use of the term 'Major' in the LVIA method, mentioned above, Table 5: Scale of Effect gives a four-point scale of levels of magnitude: Large, Medium, Small, and Negligible. However, 'Low' is not included, so it is not possible to know whether 'Low' is 'Small' or 'Negligible'.
- 5.3.39 In any case, **I disagree that the magnitude of effect on the wider landscape receptors would be Low, Small or Negligible.** The LVIA's criteria for 'Small' comprise '*Minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be largely unchanged despite discernible differences*'; the criteria for 'Negligible' are '*Very minor alteration to key elements, features, qualities or characteristics, such that post development the baseline will be fundamentally unchanged with barely perceptible differences*'.
- 5.3.40 As explained above, the LVIA assessor does not appear to have applied key differences / distinctions between landscape and visual effects, and the LVIA's conclusions about landscape character effects are almost exclusively based on intervisibility as opposed to interinfluence; also, many of the characteristics, features and qualities present within the wider landscapes were not identified.
- 5.3.41 My own assessment concluded that the level of magnitude of landscape effect would be at least Moderate Adverse. Combined with the Medium to High sensitivity of the landscape receptor, the level of overall effect would be **between Moderate, and Moderate to Major.**
- 5.3.42 Para. 1.1.29 of the LVIA method states that '*Effects that are Major-Moderate or Major are considered to be significant. Effects of Moderate significance or less are "of lesser concern" (GLVIA3, para 3.35) and not significant*'. As noted in Section 5.1, in my experience, **the threshold for significance is more commonly set at 'Moderate'**, and in my opinion, that level would be more appropriate in this case. But even if not technically 'significant', this level of effect would certainly have ***undue consequences for the baseline situation and / or the achievement of landscape planning policies and strategies.***
- 5.3.43 Finally, it must be borne in mind that **the LVIA's study area boundary was only drawn c. 2km from the main site boundary**, therefore much of the relevant baseline and other information was not included. GLVIA3 para. 5.50 explains that the geographical extent of the landscape effects must be considered, which depends on the nature and scale of the proposed development. In this case, **the geographical extent of effects would be far greater than 2km**: the main site is very large, measuring almost 8km from west to east, and at its widest point, c. 5.5km from north to south. The construction route, along which a variety of adverse effects would be experienced, covers many miles.
- 5.3.44 Also, **the LVIA did not mention some of the high value natural and cultural assets, and landscape qualities, which exist within the 2km study area**, which greatly affects judgements made about assessments of landscape effects.

Effects on character during construction

- 5.3.45 Often, the adverse effects arising as a result of the proposed / required construction activities are not factored in to judgements about the acceptability or otherwise of a proposed development. It might be assumed that as they are an inevitable consequence of development (and are temporary / can potentially be remediated), then if the proposed development is acceptable, then the construction of it must also be acceptable. In my experience, **this is not always the case.**
- 5.3.46 In fact, as here, some construction activities can give rise to significant adverse environmental effects, and may be permanent, so it is important to ensure that these matters are put on the table, even if it's only that they can be rectified in advance – it's not good to sweep them under the carpet.

- 5.3.47 Certainly, if a large amount of work is required in order to successfully fit a development into a given space / area, it may be a clear indication that whether or not this is the 'right' development, **it is certainly in the 'wrong' place.**
- 5.3.48 The nature of effects section above describes the nature of the landscape and visual effects likely to arise during the project's construction phase, including along the proposed construction routes, which in my opinion were not properly factored in to the LVIA.
- 5.3.49 The ES states that the construction phase is anticipated to last for around two years. LVIA para. 6.5.5 states that *'the construction and decommissioning phases would be temporary and short-term in duration'*. The LVIA also concludes, at para. 6.5.9, that *'The construction and decommissioning phases would not result in any landscape and visual effects of greater significance than those identified for the operational phases of the Proposed Development'*. LVIA Table 6-4 sets out the conclusion that during operation, effects on the landscape character of the site would be **Major Adverse**, but during construction they would only be **Moderate Adverse**, mainly due to the fact that whilst they would be 'Large', they would be 'short-term / temporary'.
- 5.3.50 However, for those who would be affected, **two years is a very long time to have to endure the consequences**, which include **significant adverse effects on views** (see visual effects section below). As noted in LVIA para. 6.5.6: *'Construction traffic movement including ALL's [sic] and HGV's [sic], plant, machinery, temporary lighting, passing places and highway works would be visible in this timeframe particularly at close proximity to the construction compounds'*.
- 5.3.51 Furthermore, even if these were not visible (LVIAs often forget that some people are blind), **the effects would be experienced through sound, smell, dust and so on, and through simply being aware of the activities, and / or being affected by them**, for example whilst travelling around the area and experiencing delays.
- 5.3.52 **Noise during construction is a particular problem** that would certainly adversely affect the qualities and experience of these deeply rural and tranquil landscapes. Recently, I visited a solar development under construction near the village of Bishampton in Worcestershire: it is 30MW capacity on a c. 22ha site, so **significantly smaller** than the Mallard Pass scheme.
- 5.3.53 Local residents had been complaining about the very high and almost incessant noise levels (sometimes for 12 hours a day, seven days a week), the main problem being the sound of **piling**, which was **clearly audible to receptors c. 3km away**, and intolerable to those living in the vicinity of the works. I was sent recordings whilst piling was going on, from points where residential / recreational receptors close by were experiencing them (these can be made available if required, along with other videos which show solar farms under construction; or see the examples in the footnote¹²).
- 5.3.54 Interestingly, I am reviewing a proposed solar development in the same planning authority as Bishampton. Soon after it was submitted, the Regulatory Services / Environmental Health department responded to say that they had no concerns about noise. However, local residents sent the respondent the Bishampton recordings (which also included noise emanating from transformers). As a result, the respondent withdrew their response, and their comments on the planning portal now read, *'I see that my original comments are on the portal and I have received further correspondence. I would be grateful if the original comments can be removed and replaced with the below. Complaints have been received by WRS relating to the installation of the panels at Bishampton and therefore we are requesting further details to justify the*

¹² [Tonker 830 | Piling Rig | In Action | England | UK - YouTube](#); [The Making of Brynwhilach Solar Farm - YouTube](#); [Construction of a Solar Project - YouTube](#); and [The Construction of West Solent Solar Farm, Iley Lane - YouTube](#)

installation techniques as best practicable means and consideration against a very low background level'.

- 5.3.55 Also, in my opinion, **the levels of effects of construction would certainly be higher than 'Slight' within the landscapes beyond the Order limits**, given their nature and extent.
- 5.3.56 LVIA para. 6.5.3 concludes that *'The relatively small-scale highways works to facilitate access for construction vehicles are not considered to give rise to any significant landscape and visual effects'*; however, the LVIA does not explain how it arrived at this conclusion, apart from the fact that the works are relatively small-scale and temporary. It does not appear to have considered the *permanent* effects of the proposed changes on character and views (nor note that the highways works at Great Casterton would be within the CA, which is a highly sensitive landscape receptor).
- 5.3.57 Even where existing agricultural accesses are proposed to be used, they would all require works that would urbanise these rural roads, such as 'new kerbs, carriageway surfacing and the provision of a gate', along with hedgerow / tree removal including to facilitate the required visibility splays (the table at para. 4.9.1 of the AIA lists the trees 'which require felling to permit the Proposed Development to proceed'). The effects would be experienced during construction *and* operation.
- 5.3.58 In addition to the access proposals, there would be highway works at the A6121 / Uffington Lane junction in order to accommodate two-way HGV flows, and the bend in Uffington Lane that joins the north to south arm and east to west arm of Uffington Lane would also be widened to accommodate HGVs, which would affect existing vegetation / require its removal.
- 5.3.59 In order to accommodate two-way construction traffic along Uffington Lane, which is narrow (single-track), eight passing places would have to be created. LVIA para. 6.5.3 states that *'The passing places would be located entirely within existing highways estate and would not require any additional hedgerow removal'*. However, it does not note the requirement for root pruning along the edge of the passing bay which is noted in the AIA, and which in my experience can severely weaken or even kill an old hedge. This may be a minor matter in the whole scheme of things, but it is a good example of how the landscapes would have to be modified in order to fit the development in, and the small effects which accumulate to give rise to significant ones.
- 5.3.60 Para. 6.5.3 goes on to say that *'The passing places would be temporary and removed following the construction stage and reinstated to grass verges during the operational phase'*. However, presumably, **the verges would have to be removed and reinstated again during the decommissioning phase**. Also, passing bays may be required during operation when the panels need to be replaced (panels can be damaged by hail, birds dropping stones on them and other factors).
- 5.3.61 I note that land within the West Glen River corridor is categorised as Flood Zone 3. This includes a section of the A6121 / Bourne Road on the eastern edge of Essendine village, which is along the proposed construction route. This, combined with the extreme length of the routes that some construction vehicles would have to take, may result in other roads / lanes being used which are unsuitable for HGVs / AILs (or even the LGVs and large numbers of workers' cars and vans), **causing adverse effects which have not been considered / assessed**.

Effects on character during decommissioning

- 5.3.62 LVIA para. 6.5.8 states that *'Following completion of the operational stage, the Order limits could potentially be restored to its former agricultural use during the decommissioning phase'*: I assume this means that *the land that was in agricultural use prior to development* could potentially be restored to agricultural use.

- 5.3.63 Para. 6.5.8 goes on to say that *'the decommissioning is anticipated to take approximately 6 to 12 months therefore is also short-term in duration. The solar PV components can be easily removed from the Order limits with the landscape and visual effects being reversible. The landscape mitigation and enhancement measures would remain in place following the decommissioning phase on return to the landowner'*.
- 5.3.64 ES Ch 5 para. 5.8.15 states that *'Any landscape structural planting, such as tree planting, hedgerows, scrub etc created to deliver biodiversity mitigation and enhancement associated with the Proposed Development would be left in-situ when the Site is handed back to landowners'*.
- 5.3.65 However, several unanswered questions about the future of the site post-operation remain (especially in terms of the landscape features / habitats that would have been created as mitigation / enhancement / compensation). This is partly because it is impossible to predict how landscapes and landuse would have changed during the operational phase, and to know whether landowners would want to retain / maintain the landscape features / habitats and other permanent scheme elements.
- 5.3.66 Would the wide and urbanised site access gateways be restored to rustic hedge and field gate? Would the areas of hardstanding be returned to 'soft' agricultural use eg arable / pasture? Would hedgerow gaps / new field gateways / watercourse crossings be left in place? Would the screen planting proposed within the solar PV site be retained, or removed? These features may not be in the most suitable locations for efficient agricultural use of the land; then again, if removed, effects on biodiversity would surely have to be assessed.
- 5.3.67 Also, would the requirement to keep the hedges managed high in order to screen views be dropped, so that previously good / open views which had been lost could be restored?

5.4 Effects on Views and Visual Amenity

- 5.4.1 The LVIA reports the assessment of effects on public and private views separately: effects on views from publicly-accessible viewpoints (VPs) are set out in ES Chapter 6, and effects on views from residential properties are set out in ES Volume 2 Appendix 6.4: Landscape and Visual - Residential Visual Amenity Assessment (RVAA) report (November 2022).
- 5.4.2 Plans E – G in Appendix CT-A may be a useful reference for this section. Plans E and F show the locations of public and private viewpoints, and public view routes, throughout the wider study area from which it was considered certain, likely or possible that the developed site would be visible. Plan G shows public and private viewpoints on / in the vicinity of the main site. There are four categories of viewpoints: 1) the Applicant's LVIA's 'representative' viewpoints; 2) the Applicant's LVIA's 'illustrative' viewpoints; 3) MPAG's suggested 'representative' viewpoints; and 4) MPAG's additional residential viewpoints.

Effects on public views

- 5.4.3 As noted, previously, it appears that **some or all of the photomontages in the Applicant's LVIA have not been updated to reflect the recent scheme changes**. It is important that the ExA / others are provided with the correct information.
- 5.4.4 The LVIA assessed twenty 'representative' VPs (locations shown on ES Figures 6.8.1 – 6.8.20).
- 5.4.5 In addition, eight 'illustrative' VPs (locations shown on ES Figures 6.9A – 6.9H) are provided: LVIA para. 6.3.52 explains that these are intended to *'demonstrate a particular effect or specific issues, which might, for example, be the restricted visibility at certain locations'*.
- 5.4.6 Para. 6.3.53 states that *'These representatives [sic] and illustrative viewpoints are considered to provide a proportionate selection of views at different distances and directions from the Order*

limits, noting that the assessments within this LVIA are not in any event limited to these viewpoint locations'.

- 5.4.7 **I do not agree that the VPs provide a proportionate selection of views at different distances and directions from the Order limits:** whilst I note that the assessments *are not... limited to these viewpoint locations*, my own assessment concluded that a) some of the VPs selected for assessment were at points along routes where levels of visual effects would be lower than slightly further along the route, and b) the proposed development would be visible at locations well beyond the LVIA's assessed Zone of Visual Influence (ZVI) (ie places from which the proposed development would actually be visible, as opposed to theoretically – see below), which is shown on ES Figure 6.7.
- 5.4.8 Furthermore, during the site visits I found that **some of the LVIA's selected public VPs were at points where the proposed development would be less visible than it would have been at points a little further away.**
- 5.4.9 LVIA para. 6.3.57 states that '*the Proposed Development would not **generally** [my emphasis – this is vague] be visible from the following VRG's due to the intervening landform and vegetation which are not included within the ZVI as shown on Figure 6.7:*
- a. VRG 9 – Ryhall and Belmsthorpe
 - b. VRG 11 – Aunby, Danes Hill, Careby Wood and Racer Farm to north
 - c. VRG 13 – Stamford, Uffington and Casewick Hall to south
 - d. VRG 14 – Braceborough Great Wood, Wilstone and Barholm
 - e. VRG 15 – The Heath, Newell Wood and Docksight Wood.
- 5.4.10 Para. 6.3.58 states, '*It is assessed that for those visual receptors located outside of the ZVI there would be restricted visibility of the Proposed Development such that there would be minimal (not significant) or no visual effects. The VRG's in paragraph 6.3.57 are therefore not taken forward for further assessment within Section 6.5 of this chapter*'.
- 5.4.11 The proposed development's Zone of theoretical Visibility (ZTV) is shown on LVIA Figure 6.6. LVIA para. 6.3.14 confirms that it represents the bare earth scenario, with no existing built form or vegetation that could potentially screen views.
- 5.4.12 LVIA para. 6.3.11 states that '*the ZTV shows the extent of potential visibility for the PV Arrays (being the tallest structures within the Solar PV Site) at 3.3m height above ground level (agl) which is the maximum height parameter for the Fixed South Facing (FSF) or Single Axis Tracker (SAT) panels*'. Para. 6.3.13 states that '*the ZTV mapping shown on Figure 6.6 has also been generated at 13m height to consider the maximum height parameter for the Onsite Substation components which will include the lightning surge protection mast*'.
- 5.4.13 As noted in Section 5.1 above, LVIA para. 6.2.1 states that '*a 2km study area from the Solar PV Site and Onsite Substation was considered appropriate*', and for the reasons set out previously, **I fundamentally disagree that a 2km study area boundary is appropriate or sufficient for this development.**
- 5.4.14 It is frustrating that a wider ZTV is not shown on Figure 6.6; however, the figure does show that the solar arrays and / or the mast would theoretically be visible from elevated ground beyond the northern extent of the study area for the whole of the 12km length of the map area shown on the ZTV plan, and also elevated ground to the south west / south.
- 5.4.15 LVIA para. 6.3.23 states that '*Based on the fieldwork undertaken, **it is judged that there would be minimal or no visual effects to those receptors located outside of the ZVI***'; however, whilst travelling around the landscapes north and south of the site, **my own visual assessment found naked-eye views of the undeveloped site c. 7km away**, at Easton-on-the-Hill which lies south west of Stamford; and from **c. 4.5km north of the main site**, around

Toft. As noted previously, Essendine is certainly visible from the top of Swallow Hill, Thurlby, which lies **c. 5.5km north east** of the village (and just over 4km from the solar PV site's northern boundary), so it is likely that the arrays and other scheme elements would be visible from there as well.

- 5.4.16 I also concluded that **the developed site would almost certainly be visible from other VPs not identified (even as 'representative') in the LVIA.**
- 5.4.17 As mentioned above, the LVIA refers to and relies on the findings of Rutland County Council's 2012 *Rutland Landscape Sensitivity and Capacity Assessment – Wind Turbines* to justify its conclusions about levels of visual effects; however, **this may be one reason why they have been under-reported.**
- 5.4.18 LVIA para. 6.3.49 states that '*Whilst this study is specifically related to onshore wind development, it is notable that for a turbine of 50m in height, the Rutland Plateau D(ii) Clay Woodlands LCA covering the Order limits was considered to exhibit a high capacity. It is noteworthy that the development parameters for the Proposed Development are 3.3m height for the Solar PV Site and 13m height for the Onsite Substation*' (actually, the capacity of Field 4 is unknown as it in Lincolnshire so beyond the LSCA study area).
- 5.4.19 In fact, the LSCA defines a 50m turbine as '**small**' (large is 100m). Also, the High capacity category was for '**up to 5' small turbines**. Furthermore, the conclusion was based on the five small turbines being distributed **throughout** the *Rutland Plateau D(ii) Clay Woodlands LCA*, which covers a relatively large area, extending east – west from east of Essendine to Pickford, and north – south from Carlby to Stamford, not just the site (which is extensive anyway).
- 5.4.20 LVIA Table 6-4 summarises the visual assessment's findings. The nature of effects section above describes the nature of the visual effects likely to arise when the project is operational.
- 5.4.21 The first Visual Receptor Group (VRG) identified in the LVIA is Group 1, which is categorised as 'Visual receptor groups within or immediately bordering the Solar PV Site'.
- 5.4.22 The LVIA concludes that at Year 1 of operation, these visual receptors would experience **Major adverse (the highest level on the scale, and significant) visual effects. I agree with this conclusion** (but see note about the use of the term 'Major' in the character effects section above). It also concludes that people travelling along public footpaths and bridleways that cross, or are in very close proximity to the site, would experience **Major adverse** effects at Year 1.
- 5.4.23 At Year 15, the LVIA predicts that levels of residual visual effects experienced by VRG1 and people travelling along public footpaths and bridleways that cross, or are in very close proximity to the site, would have reduced to **Major – Moderate (still significant adverse)**, due to the proposed mitigating measures having become effective. In theory, this judgement is reasonable; however, it assumes that the proposed mitigation measures – mainly screen planting – would have become fully effective as expected / predicted, whereas in my experience, screen planting is rarely fully effective, and in any case, these days cannot safely be relied upon to screen in the future, for the reasons set out in Section 5.1 above.
- 5.4.24 In addition, the judgement appears to assume that even if the visual receptors had a negative attitude towards the proposed development, that it would be less negative once the proposed planting had started to mature and the land was less 'raw', having been remediated following the construction works. LVIA para. 6.2.9 states that '*There is often a disparity of opinion and public attitudes towards renewable energy development from adverse to positive*'. I agree with this statement, but the LVIA has not adopted the worst-case-scenario (ie the highest-sensitivity receptor who considers that no amount of mitigation / enhancement would render the change 'acceptable'), it has adopted a 'precautionary' approach, in that it simply '*assumes that all the effects are considered to be 'adverse' unless otherwise stated*'.

- 5.4.25 The LVIA concludes that at Year 15, all the other VRGs (2 – 12, but 9 and 11 omitted), along with people travelling along the local road network and the majority of the public footpaths and bridleways, and using Open Access Land, would only experience either **Slight** or **Minimal** adverse visual effects.
- 5.4.26 Due to the limited scope of this commission, I have not been able to test these conclusions, and in any case, the Examiners will be able to draw their own conclusions about degrees of visibility when they visit the site; however, in my opinion, where there would be views of the developed site, levels of effects are very likely to be higher than reported. This is partly because, as explained above, the LVIA did not take many of the baseline factors and scheme elements / activities into account.
- 5.4.27 One example of where levels of visual effects are likely to be higher than reported is along the lane between Carlby and Greatford, receptors here being categorised as VRG4. The LVIA concludes that at Year 1, levels of visual effects would be **Moderate Adverse**, reducing to **Slight Adverse** at Year 15; however, this assumes that the roadside hedge would eventually grow tall enough to screen views of the developed site, which may take many years given that the land to the south, which would be covered with solar arrays, is rising, so the hedge would have to be much taller than if the land was flat.
- 5.4.28 What the LVIA has not considered is that the proposed screening would in fact result in the **total loss of an existing view over good quality open countryside**, giving rise to a **high level of adverse effect**.
- 5.4.29 Another example of where levels of visual effects are likely to be higher than reported is along The Drift, where – as with many other places – it is not just the views, but also the landscape’s high levels of aesthetic and perceptual qualities that would be adversely affected (see *Will’s Walks* in Section 3 / Appendix CT-B): however, again, it is much easier to gain a good understanding of the likely effects whilst visiting the area.
- 5.4.30 Another problem with the LVIA’s visual assessment is that it **only assesses views from single static public VPs**, whereas in reality, not only will people be travelling along a route with **sequential views** of the developed site, they are also very likely to be travelling along a **series of different routes** – such as those described in Section 3, including *Will’s Walks* – on a daily / very regular basis.
- 5.4.31 This means that **visual effects are likely to be experienced at multiple places and times in a single journey, perhaps continuously**.
- 5.4.32 This matter is dealt with in GLVIA3, for example at para. 6.22, which states, ‘*In addition to fixed views, the viewpoints should also, as far as possible, cover important sequential views along key routes and transport corridors*’, and at para. 6.39, which states that ‘*Judging the magnitude of the visual effects identified needs to take account of... the nature of the view of the proposed development, in terms of **the relative amount of time over which it will be experienced***’ (my emphasis).
- 5.4.33 In my opinion, the magnitude of the sequential visual effects would be **Large** (using the LVIA’s scale and criteria).
- 5.4.34 In addition, the LVIA assumes that along the PRow’s, the highest level of visual receptor sensitivity is **High – Medium**, whereas, as noted in Section 3, some receptors are of **High** sensitivity due to this area **attracting visitors from all over the country**.
- 5.4.35 The combination of a High – Medium sensitivity receptor and a Large magnitude of effect results in an **overall level of visual effect of Major Negative (significant)**.
- 5.4.36 Also, and very importantly, the visual assessment’s conclusions **assume that deer-proof post-and-wire fencing would be installed**, whereas as noted above, in my opinion, **high-**

security fencing is likely to be required. If that were the case, given the extent of fencing required, **levels of visual effects would be far higher at most if not all VPs.**

Effects on views and visual amenity during construction

- 5.4.37 The majority of the effects on landscape character described above would be visible.
- 5.4.38 At para. 6.5.9, the LVIA concludes that *'The construction and decommissioning phases would not result in any landscape and visual effects of greater significance than those identified for the operational phases of the Proposed Development'*, due to the short-term and temporary nature of the effects.
- 5.4.39 Notwithstanding this, in my opinion, **many visual receptors would experience significant adverse effects on views during construction**, especially as often, the views would be experienced sequentially throughout the course of a single journey. Also, the adverse visual experience would be exacerbated by the adverse effects of noise, disturbance, activity, odour and so on. See also effects on private views and recreation / amenity below.

Effects on views and visual amenity during decommissioning

- 5.4.40 The LVIA concludes that during decommissioning, levels of visual effects are likely to be lower than they would be during the construction phase, especially as the works would not last as long; however, many of the effects that would or could arise (described above) were not factored in to the visual assessment, therefore **levels are likely to be higher than reported.**
- 5.4.41 Also, I note that the Amenity and Recreation Assessment (ARA) (ES Volume 2 Appendix 6.5: Landscape and Visual - Amenity and Recreation Assessment (November 2022)) assumes that *'decommissioning effects are likely to be similar to those of construction'* (see notes about other contradictions between the ARA and the LVIA in Section 5.5 below).

Effects on private views

- 5.4.42 The assessment of effects on private views is set out in ES Volume 2 Appendix 6.4: Landscape and Visual - Residential Visual Amenity Assessment (RVAA) (November 2022).
- 5.4.43 Para. 1.1.1 explains that RVAA is concerned with *"the overall quality, experience and nature of views and outlook available to occupants of residential properties, including views from gardens and domestic curtilage"* (Landscape Institute (LI) 2019) [Ref 1]. The RVAA was carried out with reference to the Landscape Institute's *Technical Guidance Note for Residential Visual Amenity Assessment* (2019).
- 5.4.44 Para. 1.2.6 explains that *'The first stage of the RVAA is to define the study area and identify residential properties to be assessed. The initial starting point for identification of the RVAA study area is the LVIA study area, which uses a radius of 2km from the Order limits. Based on findings of the LVIA and given the nature of solar development in that it is unlikely to result in 'overbearing' or 'overwhelming' visual effects it is only residential properties in near proximity to the Proposed Development where the Residential Visual Amenity Threshold may be engaged. In light of this a 100m RVAA study area from the Order limits has been identified based on the characteristics of the Proposed Development and receiving baseline environment. The extent of the RVAA study area is shown in Figure 1'.*
- 5.4.45 Again, this is best verified during a site visit, but in my opinion, **this distance is inadequate:** as noted above, **high levels of adverse visual effects would be experienced at distances far greater than 100m.**
- 5.4.46 Table 1 sets out the RVAA's findings. At Year 1, all the visual effects were predicted to be Slight or Minimal Adverse, except along Uffington Lane, where they were judged to be Moderate Adverse.

- 5.4.47 What I fail to understand is how the RVAA concludes that the majority of residential visual receptors within 100m of the proposed development (at least, those which were identified – up to ten individual / small clusters of properties were omitted), would only experience **Slight or Minimal** levels of adverse effects, when at Year 1, the LVIA predicts that **Major Negative** visual effects would be experienced by users of public footpaths and bridleways in **close proximity** to the site.
- 5.4.48 Furthermore, these are currently **open, expansive landscapes**, so from residential properties with views over such landscapes, **the magnitude of change arising from the development would be very high**.
- 5.4.49 Nor does the RVAA appear to consider that **people living in residential properties would experience the effects perpetually whilst at home**, as well as when travelling around the area, perhaps on a daily basis. That should be taken into account in judgements about levels of effects, as the prolonged experience would give rise to greater magnitudes of change.
- 5.4.50 Also, whilst the RVAA concludes that levels of effects during construction would be lower than levels of operational effects (but see next section on recreation / amenity), as noted previously, many visual receptors would experience **significant adverse effects on views during construction**, and the adverse visual experience would be exacerbated by the adverse effects of noise, disturbance, activity, odour and so on.
- 5.4.51 Another point which is not considered in the RVAA is that whilst the proposal is to screen near-distance views by allowing roadside hedges to grow taller (very tall where the arrays would be visible on rising land beyond), it is assumed (in the LVIA) that this would **reduce** levels of visual effects by blocking views of the arrays / other scheme elements and activities. However, in some cases, it would in fact result in the **total loss of an existing view over good quality open countryside**, giving rise to a **high level of adverse effect**.
- 5.4.52 For these and other reasons, **I am not convinced that the RVAA' s findings can be relied on**.
- 5.4.53 Finally, one residential receptor that was not included in the RVAA is Banthorpe Lodge, a Grade II listed property, once a 17th century farmhouse, which lies c. 180m south east of the part of the main site (and where there would be arrays) which lies north of the main line railway, and at its closest point, c. 170m north east of the part of the main site (with arrays) which lies south of the railway. The main site (with arrays) also lies c. 250m south and south east of Banthorpe Lodge.
- 5.4.54 Although the assessor states that they did not visit the property, para. 5.46 of the CHIA says that '*Despite its proximity to the Order limits and Solar PV site illustrated on the master plan of the proposed development, **there is no inter-visibility between the Site and Banthorpe Lodge***' (my emphasis). In fact, **there is** – I visited the Lodge, and parts of the developed site would be clearly visible, especially to the south, where the land rises to a localised plateau at Wood Farm.
- 5.4.55 Also, construction access is proposed off both sides of the lane that lead to the Lodge, c. 320m south west of the property, and a secondary construction compound is proposed to be located south of the lane, c. 400m from the property: it is likely that the latter would be visible from the Lodge, and both would certainly be experienced by residents from the property, and whilst travelling to / from it.
- 5.4.56 As noted above, hedges would have to grow very tall in order to screen the developed site in that situation.
- 5.4.57 Due to the fact that there is both intervisibility and interinfluence between the site and Banthorpe Lodge, and likely historical associations with the land on which the solar site lies,

plus the fact that the property's immediate once-rural setting to the north has been damaged by the main line railway which means that the rest of its currently rural setting is arguably now of greater importance, I am not convinced that the conclusion set out in CHIA para. 5.46 is correct, which states that *'the primary experience of the asset is from within its immediate private setting which will not be impacted, and therefore will be **no harm** on the significance of the Listed Building'* (CHIA author's emphasis).

5.5 Effects on Recreation and Access

- 5.5.1 The topic of 'amenity and recreation', and effects on the existing resources, are dealt with in the Landscape and Visual - Amenity and Recreation Assessment (ARA).
- 5.5.2 The resources within the Order limits which were the subject of the ARA are set out in ARA Table 1, and those within the study area (c. 500m from the Order limits) in Table 2.
- 5.5.3 The proposed mitigation measures are set out in Sections 1.3 and 1.4.
- 5.5.4 ARA para. 1.2.4 notes that *'many of the local roads and lane network are used by walkers and cyclists for the purposes of recreation'*. However, para. 1.1.5 states that *'the routes in question are not nationally designated (i.e. National Trails) and are mainly used by the local population'*. I agree that there are no national trails, but **disagree that the routes are mainly used by the local population**.
- 5.5.5 As set out in Section 3 above, this is great walking country, with several long-distance trails and other public footpaths, bridleways and quiet lanes which are well-used by visitors to the area, the purpose of their visit often being to enjoy the rural landscape's aesthetic and perceptual qualities, pubs, quaint villages and other natural / cultural features. The local area also offers very good quality cycling resources, and national / international-level events which draw enthusiasts from around the UK, and very good equestrian access across a wide network of interconnected routes.
- 5.5.6 The above has implications for the ARA's judgements about levels of effects, because on this basis, it has under-reported levels of receptor sensitivity. Also, despite stating that the ARA was informed by the LVIA's findings, there is a **lack of consistency between the ARA and the LVIA**, with **some of the results being contradictory**.
- 5.5.7 For example, in the ARA, the sensitivity level of receptors travelling along the Macmillan Way is categorised as **Medium (Community)** value / medium susceptibility), whereas in the LVIA, it is categorised as **High-Medium (National)** Value + Medium Susceptibility) (the latter being the appropriate level, in my opinion).
- 5.5.8 Also, the LVIA concludes, at para. 6.5.9, that *'The construction and decommissioning phases would not result in any landscape and visual effects of greater significance than those identified for the operational phases of the Proposed Development'*, whereas the ARA concludes that for the same receptors, **construction effects would be higher than operational effects**. For example, in Table 3, the ARA concludes that receptors travelling along Bridleway E169 would experience **Major – Moderate Adverse** effects during construction and decommissioning, reducing to **Moderate** during operation. Indeed, ARA para. 1.5.2 confirms that *'Most effects are likely to arise to perceptual or actual changes during construction as a result of the construction activities'*.
- 5.5.9 Another point which is not considered in the ARA was made previously, in that whilst the proposal is to screen views with vegetation, it is assumed that this would reduce levels of effects by blocking views of the arrays / other scheme elements and activities. However, in

some cases, it would in fact result in the **total loss of an existing view over good quality open countryside**, giving rise to **high levels of adverse effects**. This is alluded to in ARA para. 1.5.7, which states, '*existing and new planting would temper impacts and **change the character and amenity of some routes from open, long-distance views to more visually enclosed***', but this is **not reported as the worst-case scenario**.

- 5.5.10 Para 1.5.7 goes on to say that '*Views of parts of the adjacent Proposed Development would be **notable until planting matures and filtered views are likely to remain for the duration of operation***' (see comments about not relying on vegetation to screen in Section 5.1 above).
- 5.5.11 Another problem with the ARA is that it **only considers effects along a single route**, whereas in reality, people are very likely to be travelling along a **series of different routes** – such as those described in Section 3. This means that **effects are likely to be experienced at multiple places and times in a single journey, perhaps continuously**. In my opinion, the magnitude of this effect would be **Large**.
- 5.5.12 As mentioned in Section 2.2 above, my own assessment and review relied on input from people in the local communities. One of the most valuable exercises we carried out was marking up OS maps of the study area with baseline recreation and amenity information such as:
- Key visitor attractions, recreational / community facilities, schools, places of work etc.
 - Important recreational / daily commute connections between the site and the wider area.
 - Routes (along roads, byways open to all traffic (BOATs), bridleways, public / permissive footpaths) typically / frequently used by locals and visitors, i) in cars, ii) on bicycles, iii) on horseback, iv) on foot and v) by bus.
- 5.5.13 The maps and plans are in Appendix CT-A: see especially Plans C – G, which show all the routes, and some of the associated viewpoints.
- 5.5.14 Below is an example of one of the many loop-routes mainly along public footpaths and bridleways, which is available to walkers, equestrians and cyclists living in / visiting the areas in the vicinity of the main site that would be adversely affected by the proposed development – during both construction and operation – giving an idea of the sequential effects likely to be experienced. Where there are no solar arrays in the fields through / adjacent to which the route passes, it is noted.
- 5.5.15 This loop-route takes its start and finish point at Pickworth, which lies c. 1.4km north west of the site (and where there are horse liveryes – in fact, there are several liveryes along / in close proximity to this part of the loop-route), although it can be joined at any point.
- From Pickworth, if travelling in a clockwise direction, people travel east along the lane leading to Carlby (which also has a livery). Just before and after crossing the B1176, travellers would pass adjacent to Fields 1, 4, 5 and 7 (no arrays in Field 7). Construction traffic would be moving up and down the B1176, and there would be works at the junction eg for cable crossings.
 - From Carlby, one travels south-eastwards along the lane leading to Greatford, with Fields 29 and 33 (no arrays in Field 33) adjacent to the south. This is also along the construction route, with a site access proposed off the lane, leading to the proposed secondary construction compound at Park Farm.
 - Just beyond the proposed site access, one turns south along the bridleway which crosses the site: here, one would be adjacent to Fields 33, 34, 35 and 36 (the bridleway runs between 34 and 36). At points, the bridleway would be crossed by construction / maintenance access tracks and cable runs.

- After crossing the railway and the West Glen River, the bridleway becomes a 'route with public access', which ends at the Greatford – Belmesthorpe lane. One turns west along the lane, which runs between Fields 25 and 49. The lane is along the proposed construction route. An access to the site is proposed off the lane, just west of the point where the 'route with public access' joins it. A secondary construction compound is proposed to be located adjacent to the access point, in Field 49. The lane is also along the route of the Macmillan Way long-distance trail.
- At the western end of the lane, travellers turn north and travel along Uffington Lane towards Stamford Road, at the south-western edge of Essendine. The whole of this section of Uffington Lane is along the proposed construction route, and during construction, one would pass the proposed primary construction compound (opposite the existing Ryhall substation), and one of the secondary compounds proposed in the adjacent field. When operational, the proposed new substation would be situated in the primary compound field (Field 19). Fields 17, 18, 19, 22, 23 (no arrays) and 25 are adjacent to Uffington Lane.
- Travellers cross Stamford Road and head north west along the bridleway which crosses the site, running between Fields 9, 12, 13, 14, 15 and 16.
- At the western end of the bridleway, one turns north along a short section of the B1176, then west along The Drift back to Pickford. Access to the site is proposed off both sides of the B1176 just north of its junction with The Drift, and there would be secondary construction compounds east and west of the road as well, close to the access points and just north of The Drift on the west side. The Drift is adjacent to (north of) Fields 2 and 3.

5.5.16 In my opinion, partly due to the fact that the ARA relied on the LVIA's findings, which are flawed, and partly due to the inconsistencies / contradictions, **the ARA's findings cannot be relied upon**. As with the LVIA, **most of the levels of effects that would be experienced by other receptors have been under-reported**.

5.5.17 In summary, I do agree with the ARA that some of the recreational receptors would experience **Major Adverse (significant)** effects during the construction phase / at Year 1, but for the same reasons as set out in the visual effects section above, **I do not agree that levels would reduce to Moderate (not significant) at Year 15** – in my opinion, they would remain **Major Adverse (significant)**.

6. Summary and Conclusions

- 6.1 In January 2023, I was commissioned jointly by a group of local residents (MPAG), and CPRE, to advise on landscape and visual matters in relation to the proposed development. The findings of the review will be submitted as part of the Group's representation to the Examining Authority.
- 6.2 The main aims of this review were to determine:
- a) whether the Applicant's submission identifies and addresses the key landscape-related issues;
 - b) whether it provides sufficient evidence-based and objectively-quantified information to ensure that informed and balanced judgements about levels of landscape, visual and other effects can be made, and on which decision-makers can confidently rely; and
 - c) whether what is proposed is likely to comply with the requirements of relevant landscape-related planning policy and guidance.
- 6.3 In order to achieve this, I carried out an independent assessment of landscape and visual effects, in accordance with published guidance, and undertook an in-depth analysis and review of the Applicant's information, especially the LVIA, and then compared the results of my own assessment with those of the Applicant's.
- 6.4 The Applicant's landscape and visual assessments concluded that **the proposed development would give rise to significant adverse effects on the landscape character of the site, and on views on, or in close proximity to, the site**, but that beyond, levels would be low. However, they also concluded that these levels of effects would only be experienced until the proposed planting grew tall enough to screen the development from view, when effects would no longer be significant.
- 6.5 I agree that there would be **significant adverse effects** on the landscape character of the site, and on views on, or in close proximity to, the site; however, for the reasons which are set out in this report, **I do not agree that levels of effects beyond the site would be low**, nor that the proposed screen planting would be effective in reducing levels of many of the visual effects, nor that it would reduce levels of landscape effects.
- 6.6 In the case of the latter, unfortunately, the LVIA **conflates landscape and visual effects**. It also **underestimates levels of value, susceptibility to change, sensitivity, magnitude and thus, overall levels of effects**. The underestimations are mainly due to **insufficient baseline study and analysis**, but also **errors in the method and process**.
- 6.7 My own assessment concluded that **the proposed development would give rise to significant adverse effects on the landscape character of both the site and the wider landscapes, and almost certainly, on views from VPs several kilometres from the site**.
- 6.8 It would also **significantly adversely affect people's health and wellbeing, and the quality of their lives**.
- 6.9 From the plans and documents, **it is very difficult to comprehend the sheer size and scale of the proposed development**, and thus the **very large extent of effects**.
- 6.10 The main site alone measures almost **8km from west to east**, and at its widest point is c. **5.5km from north to south**, with solar arrays / ancillary infrastructure occupying the majority of those extents. The area of the Order limits is c. **852ha**, and the Solar PV area is c. **420ha**.
- 6.11 To put that into the context of the wider landscape, it is worth noting that **the whole of the settlement of Stamford, including its green spaces, covers c. 515ha**.

- 6.12 It must also be noted that **the proposed development would not deliver any landscape or visual benefits or enhancements**, as the LVIA confirms.
- 6.13 For these and other reasons, and to answer the last of the questions posed in Section 2.2, in my opinion, the proposed development **would not comply with the requirements of the relevant landscape-related policies and guidance**.
- 6.14 Furthermore, it seems very likely that **the proposal to erect deer-proof fencing will have to be reconsidered before decisions are made**, as it is highly likely that **the fencing would have to be far more robust than timber post and wire netting in order to deter thieves and satisfy insurance requirements**.
- 6.15 However, if the high-security fencing now being recommended by police forces around the country had to be used instead, the **levels of adverse effects on landscape character and visual amenity would without doubt be unacceptably high**.
- 6.16 A final point that I would like to make relates to levels of effects, and scale. It is agreed that the proposed development is of a very large scale indeed, and would give rise to levels of adverse landscape and visual effects which are 'significant'.
- 6.17 It is useful to look at that judgement in a wider context, in terms of 'significant' adverse effects judged likely to arise from other solar developments in similar locations / landscapes (ie rural, unsettled, tranquil and so on, with no reference to the type of development proposed within the area of interinfluence / intervisibility).
- 6.18 Below is a decision made by an LPA in Worcestershire relating to a planning application¹³ for a solar development in such a landscape:
- 'The proposed development by virtue of the scale and visual prominence, especially from the footpaths through, bounding and accessing the site would result in an **industrialisation of a large area** of the less developed and unspoilt countryside resulting in **loss and major alteration** to key elements and features of the landscape, impacting the intrinsic character and beauty of the countryside, introducing new development that is uncharacteristic of the surrounding landscape and representing an alien and discordant feature within the pastoral setting that would have a **significant adverse impact on the enjoyment of the countryside** by users of the public rights of way and Monkwood, contrary to policies SWDP21, SWDP25, SWDP27, SWDP6 and SWDP24 and the NPPF' (my emphases).*
- 6.19 The capacity of the Mallard Pass scheme is c. **350MW**, and the Order limits cover c. **852ha**. The above proposal was for a **49.9MW** scheme, covering c. **36ha**.
- 6.20 Thus, whilst the effects of both are deemed to be 'significant', **the scale and extent of effects arising from the Mallard Pass proposals would be many times greater than those of the much smaller scheme**.

Carly Tinkler BA CMLI FRSA MIALE May 2023

¹³ <https://plan.malvern hills.gov.uk/Planning/Display/21/01846/FUL>

Appendix CT-A

Maps and Plans

(available as separate documents)

Please note that whilst some of the plans are only to scale when printed at A0 size, most are legible at A2, some at A3. All are in colour.

Plan A: OS Map 1:25,000 (to scale at A0)

Plan B: Landscape Character (LC) Baseline (to scale at A0), with separate key.

Plan C: Map 1 Routes Residents (to scale at A0) – see also accompanying text in separate documents
Routes Map 1 Text pp. 1 - 3

Plan D: Map 2 Routes Visitors (to scale at A0) – see also accompanying text in separate documents
Routes Map 1 Text pp. 1 - 2

Plan E: Routes VPs 1 (to scale at A0)

Plan F: Routes VPs 2 (to scale at A0)

Plan G: VPs Site and Surrounds (original plan 1:30,000 at A3, but marked up on A1 / A2 prints)

Plan H: Scheme Elements and Access (not to scale, extract from 1:25,000 OS Plan A, marked up on A2 print)

Plan I: Substation Aerial (superimposed on Google Earth to show location in wider context)

See Separate files

Appendix CT-B

Extracts from *Will's Walks*

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(available as separate document)

See Separate file

Appendix CT-C

Landscape & Visual Effects Assessment Criteria

See Separate file