

LANDSCAPE AND VISUAL IMPACT ASSESSMENT: PROPOSED SOLAR FARM AND BATTERY ENERGY STORAGE SYSTEM (BESS)

KELHAM | NEWARK- ON -TRENT



PREPARED BY



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DRAWING SCHEDULE

Drawing Number	Drawing Title	Scale
HC1002 02 01 R0	LVIA Study Area	1:25,000
HC1002 02 02 R0	Landscape Planning Constraints	1:20,000
HC1002 02 03 R0	Zone of Theoretical Visibility (ZTV)	1:25,000
HC1002 02 04 R0	Landscape Character Policy Zones	1:25,000
HC1002 02 05 R0	Landscape Mitigation Plan	1:2,500
HC1002 02 06 R0	Cumulative Sites	1:30,000
HC1002 02 07 R0	Residential Receptors	1:10,000

APPENDIX SCHEDULE

Appendix No.	Title
4.6.1	Methodology
4.6.3	Photomontages

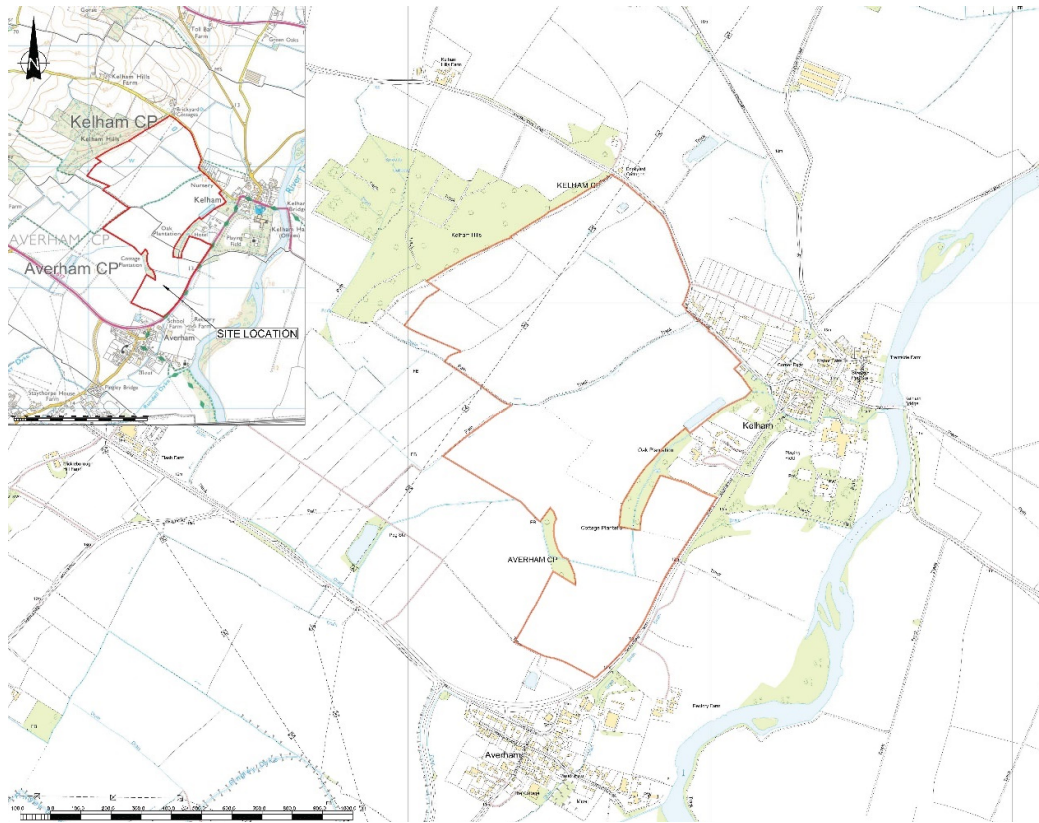


1. INTRODUCTION

1.1 INTRODUCTION

- 1.1.1 This Landscape and Visual Impact Assessment has been prepared by Sirius Planning on behalf of Assured Asset Solar 2 Ltd. to support the planning application for the proposed development of a ground mounted Solar Farm, Battery Energy Storage System (BESS) and associated ancillary equipment ("the proposed development") on agricultural land between the villages of Kelham and Averham, Newark-on-Trent.
- 1.1.2 The assessment and methodology for this LVIA conforms to the relevant parts of the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and IEMA, 2013). The assessment focuses on the identification of likely 'Substantial' landscape and visual effects, including those that are, positive and negative, direct and indirect, long, medium and short term, and reversible and irreversible, as well as cumulative effects (where applicable). This includes the potential effects on local landscape character and landscape designations, as well as the potential effects on views experienced by people (receptors) including (but not limited to); settlements, public rights of way, leisure destinations, registered parks and gardens and transportation corridors.
- 1.1.3 This assessment outlines the data gathering methodology that was adopted for the LVIA. It then leads to a description of the assessment methodology, the overall baseline conditions, and an assessment of potential effects. The chapter concludes with a summary of the assessment results.
- 1.1.4 The main objectives of the LVIA, in relation to this development, are as follows:
- To identify, evaluate and describe the current landscape character of the site and its local surroundings and any notable individual landscape elements within the site;
 - To determine the sensitivity of the landscape to the type of development proposed;
 - To identify potential visual receptors (i.e. people who would be able to see the development) and evaluate their sensitivity to the type of changes proposed;
 - To identify and describe any effects of the development in so far as they affect the landscape and/or views of it and to evaluate the magnitude of change due to these effects; and
 - To assess the effects of the development in consideration of the potential effects to be assessed, the mitigation proposals identified and the residual effect (with mitigation in place) and to demonstrate the effectiveness of the mitigation proposed.
- 1.1.5 It is proposed to construct and operate a solar farm and BESS across approximately 65ha of farmland between the villages Kelham (to the east) and Averham (to the south). The proposal site is formed of several fields laid out to arable agriculture. The site is centred on National Grid Reference 476604, 355619 and the site location is illustrated on Drawing HC1002/05/01 an extract of which is provided in Figure 1 below for ease of reference. An indicative site layout is illustrated at Drawing HC1002/05/03.

Figure 1: Site Location



1.2 SITE CONTEXT

- 1.2.1 The application site covers an area of c.71 ha of flat agricultural fields between ground levels of 14-17m AOD. The solar panel deployment area (and BESS) covers 58.8ha which includes all areas within the securely fenced areas of the site inclusive of the solar panels, internal roads, open ground utilised for ecological enhancements and standoffs from site constraints (public rights of way, etc.). The Solar Farm and The BESS compound covers an area of 0.36ha. The remaining land is to be utilised for landscape buffers and ecological enhancement areas around the perimeter of the site and cable route.
- 1.2.2 The site is set within a rural fringe area adjacent to the two villages of Kelham and Averham which are situated to the immediate west of the River Trent, with the near surrounding area consisting of mainly agricultural land. The site is comprised of two relatively large and one smaller field laid out to arable use with smaller enclosures to the immediate north and west inclusive of some pastures. The site is afforded some general screening from the north west by woodland at Kelham Hills and to the east by woodland enclosing Kelham Country House and Kelham Hall (both located in well-established wooded settings to the immediate east). Further low level screening is provided by hedgerows along Broadgate Lane which bounds the site to the north, hedgerows alongside the A617 bounding the site at its south west corner, as well as further hedgerows forming the western boundaries to the site and an internal hedge subdividing the two large fields.
- 1.2.3 To the north of the site, detached properties front Broadgate Lane which extends the edge of Kelham village westwards from its nucleated centre, north of the A617 and grounds of Kelham Hall.
- 1.2.4 The village of Averham lies to the south beyond the A617 before it heads north towards Kelham passing the site to the immediate east.

1.3 SITE ACCESS

- 1.3.1 The fields are currently accessed via an existing farm access track from Broadgate Lane to the north which bisects the two larger field enclosures. This track is bordered by a hedgerow on its southern side.

Access can also be taken from the A617.

- 1.3.2 Proposed internal tracks serving the solar deployment areas and BESS compound will be routed around the site fields. The main vehicular access will be from the south east via the existing field entrance off the A617. A temporary set down and storage area will be established close to this access alongside the eastern site boundary (Refer to Drawing HC1002 05 25 R0).

1.4 THE PROPOSED DEVELOPMENT

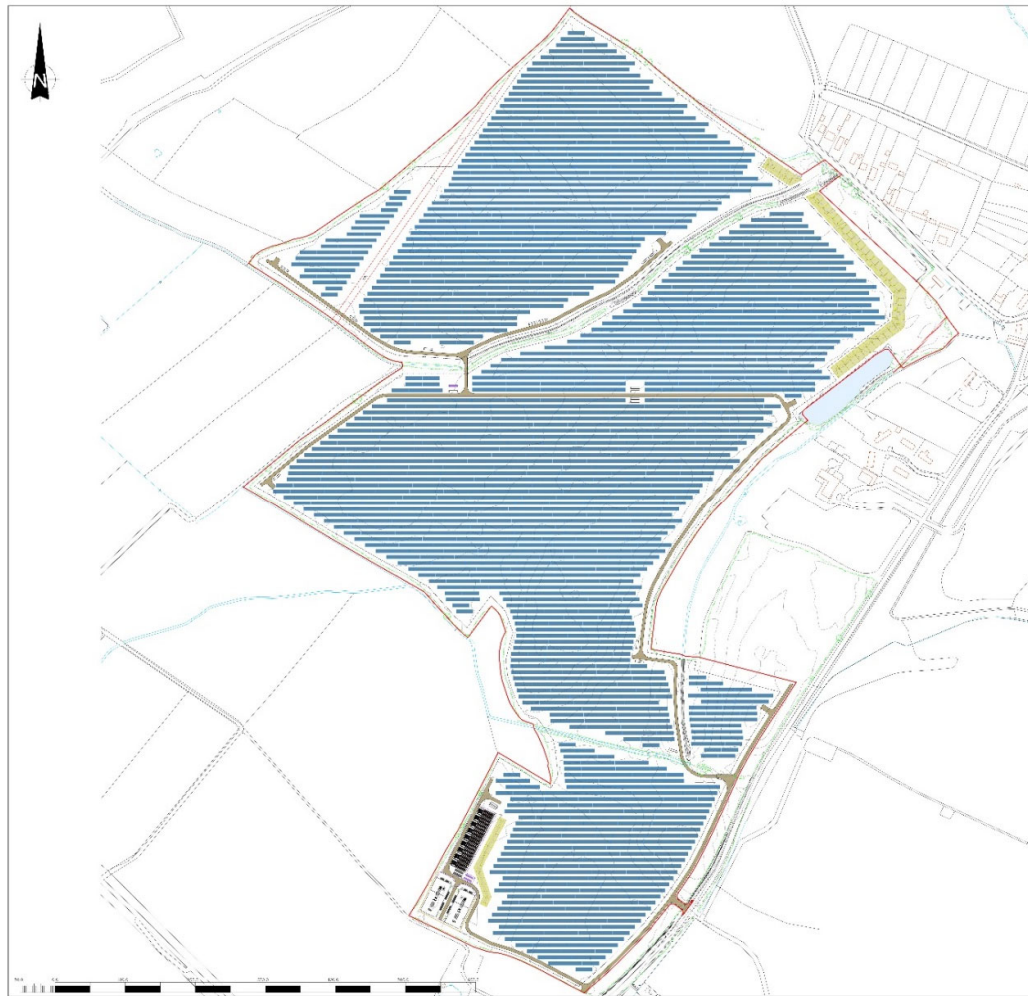
- 1.4.1 The proposal relates to the construction, operation, maintenance and decommissioning of a ground mounted solar farm and Battery Energy Storage System (BESS) plus ancillary infrastructure as shown on Drawing No. HC1002/05/03 and Figure 2 below. The proposed development will comprise the following elements :

- Photovoltaic (PV) panels;
- Mounting frames - matt finished small section metal structure;
- Battery container units;
- Scheme of landscaping and biodiversity enhancement;
- Permissive public access
- Inverters (accommodated on the mounting frames) and transformers (housed in prefabricated containers) and associated cabling (largely below ground);
- Separate Distribution Network Operator (DNO), communication mast(s) and customer substations and meter points for the solar and BESS;
- Deer fencing and infra-red CCTV (CCTV cameras would operate using motion sensors and would be positioned inward only to ensure privacy to neighbouring land and property);
- Temporary construction set down and storage area;
- Internal service roads; and
- Site access for the construction and operational phases.

- 1.4.2 Due to commercial constraints, potential changes in solar panel, battery storage units and associated infrastructure manufacturer during the determination process an element of flexibility is required in relation to their dimensions, positioning, appearance and their arrangement.

- 1.4.3 Drawing HC1002/05/03 R0 therefore shows an indicative layout, an extract of which is provided at Figure 2 below for ease of reference. A detailed layout and phasing of construction will be agreed with the Local Planning Authority (LPA) by way of a suitably worded planning condition.

Figure 2: Indicative Site Layout

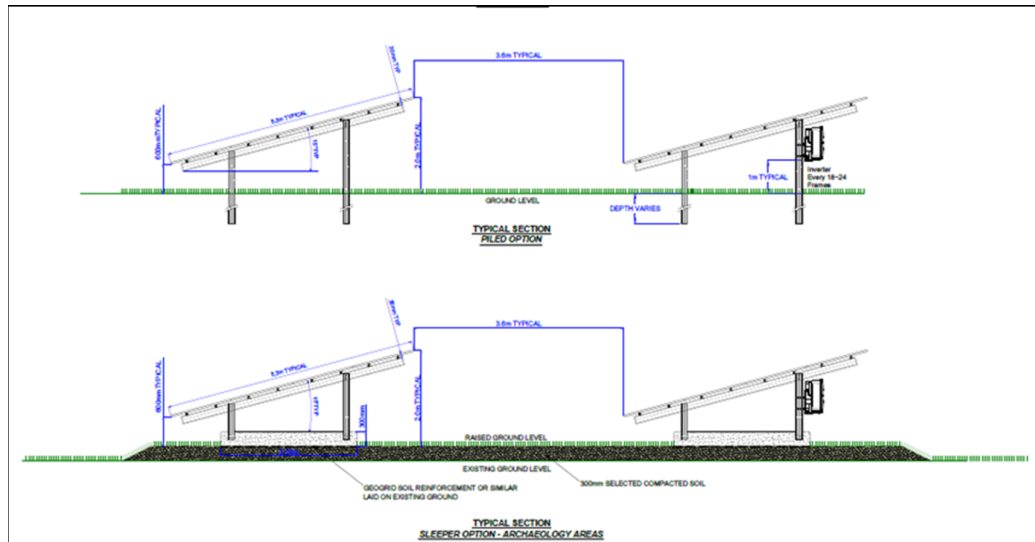


- 1.4.4 The scheme will have a lifespan of 40 years after which all equipment, both solar farm and BESS, will be removed from the site and the land will continue to be used for agriculture.
- 1.4.5 Both solar farm and BESS will connect to the National Grid via underground cables. The proposed point of connection is at Staythorpe Substation, circa 1.4km to the south of the proposal site. Below ground cabling will connect the facility to the point of connection.
- 1.4.6 The panels will be arranged in rows in an east-west alignment across the deployment area and will be angled at approximately 15° to the horizontal and orientated south. All panels will be mounted on metal frames and have a maximum height of 2.0m above ground level; the lowest part of the panel will be circa 0.6m above ground level.
- 1.4.7 The rows of panels will be set to between 4m and 6m apart to avoid shadowing and allow for scheduled maintenance. Transformer and substations are typically 3m in height.
- 1.4.8 The BESS compound measures approximately 0.36ha and will have a gravel surface. The BESS will comprise 20 battery-clusters that contain 22 smaller modules. Each battery cluster will measure typically 15.3m in length, 2.5m wide and 3.2m in height.
- 1.4.9 The battery clusters will sit in bays of two surrounded by 3m high concrete firewalls. The batteries will operate whenever called upon by the DNO. But as electrical demand is greatest in the morning and early evening this is when the facility is most likely to be delivering power to the grid.
- 1.4.10 The BESS compound also comprises two switchgear cabins, substations for both the BESS and solar

farm, two spare storage cabins and four containers, details of which are shown on Drawing HC1002/05/07.

- 1.4.11 A c.4m high acoustic fence will surround the BESS compound, details of which are provided on Drawing HC1002/05/21.

Figure 3: Indicative PV Panel Details



- 1.4.12 There will be two types of mounting frames used on site. The majority will be matt finished galvanised steel that will be fixed to the ground employing a pile mounting system, the piles will be pushed into the ground via a mobile piling rig. Where there is known archaeological features on site, the panel frames will be mounted on ballast blocks to ensure stability of the panels and frames without disturbing heritage features. A geo-grid system will be installed beneath each ballast block to reduce soil cohesion to the block when it is moved. In some of archaeological mitigation areas, the ground height will be raised by 300mm to increase the soil depth to avoid potential compaction of the archaeological feature. The soil used to create the raised areas will be site won material. **Drawing HC1002/05/05** (see also Figure 3) provides a specification of the panel and frames.
- 1.4.13 The Construction Traffic Management Scheme will provide details on the access arrangement and the need for any mitigation and management measures.
- 1.4.14 Service tracks are required to the transformer stations as well as around and within the solar farm deployment areas. These will provide vehicular access around the site as part of regular inspection and maintenance work. The tracks will be approximately 4m wide and will be finished with compacted crushed stone.

1.5 CONSTRUCTION PROGRAMME

- 1.5.1 Subject to the granting of planning permission, construction activity for the development is expected to last 6 to 12 months.
- 1.5.2 A secure temporary set-down area will be established within the southern site field adjacent to an existing farm access off the A617 for the construction phase. The set down area will accommodate site materials for the construction works and will be a car park for site construction operatives.
- 1.5.3 Construction is expected to take place during the hours of 08:00 to 18:00 (Monday to Friday) and 08:00 to 16:00 hours (Saturday).
- 1.5.4 Further details of the construction programme are provided in the Construction (Traffic) Method Statement.

1.6 DECOMMISSIONING

- 1.6.1 After 40 years of operation the panels and associated infrastructure will be able to be removed from site. The CTMS will detail the programme and anticipated vehicle movements associated with this phase of proposal.

1.7 STUDY AREA

- 1.7.1 It is accepted practice within landscape and visual assessment work that the extent of the study area for a development is broadly defined by the visual envelope of the proposed development and the anticipated extent of the visibility based on landform and developed and natural features. The study area for this assessment extends to a 2.5km radius from the site boundary.
- 1.7.2 The study area was selected for the assessment on the basis of the scale of the proposal; ~2m high solar panel arrays set within a site area of c.65 ha. and considered their actual theoretical visibility considering local screening features and the nature of the surrounding topography and established tree cover. Considering the height of the solar panels and local setting the likelihood of the site being substantially perceptible at distances over 2.5km from the site is very low.

1.8 REPORT STRUCTURE

- 1.8.1 This report is structured as follows:
- Introduction;
 - Policy Context;
 - Methodology;
 - Baseline Landscape Conditions;
 - Baseline Visual Conditions;
 - Assessment of Landscape Effect;
 - Assessment of Visual Effect; and,
 - Summary and Conclusion.

1.9 CONSULTATION

- 1.9.1 Pre-application discussions took place with Newark-on-Trent District Council's Planning and Landscape Officers (in summer 2022) during the initial development of the project. These discussions have informed the evolution of the scheme design (with a landscape and ecological focus) in addition to the landscape and visual assessment aspects to consider, including the location of the viewpoints. A public consultation event took place on 31st August 2022, the feedback for which is detailed in the Statement of Local Engagement which will feed into the period of consultation with the LPA following submission of the planning application.

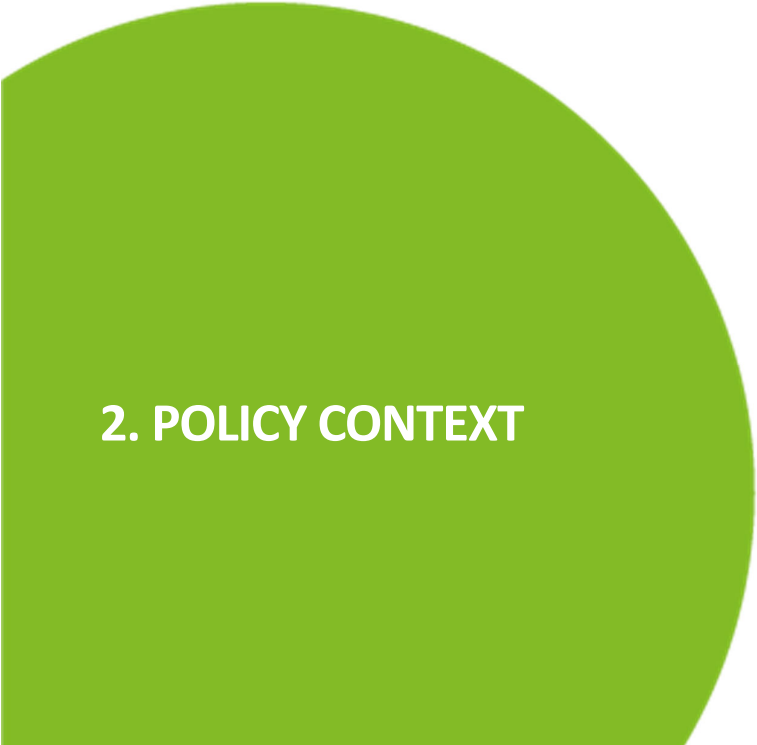
1.10 CUMULATIVE SITES

- 1.10.1 Opportunities exist for potential cumulative views, where more than one solar farm (and/or BESS in this instance), including the proposed development, may be seen either simultaneously or sequentially. Solar farms (and BESS) with the potential to generate cumulative effects include those which; are constructed, are in construction; have planning permission and are not yet constructed; or are awaiting determination of planning permission.
- 1.10.2 Developments that are subject to a valid planning application are included where specific circumstances indicate there is potential for cumulative effects to occur, with progressively decreasing emphasis placed on those which are less certain to proceed.
- 1.10.3 Operational, and consented developments are treated as being part of the landscape and visual baseline. i.e. it is assumed that consented schemes will be built except for occasional exceptions where there is good reason to assume that they will not be constructed. Review of the local study area has confirmed that 3 schemes, 2 solar developments and 1 BESS, are awaiting decisions.
- 1.10.4 There was an additional BESS scheme proposal for a site adjacent to Staythorpe substation which was refused in July 2023.

1.10.5 The location of the cumulative sites is illustrated on Drawing HC1002 02 06 R0 Cumulative Sites. Table 1 provides the status of each proposal site at the time of assessing this planning application.

Table 1: Cumulative Solar and BESS Developments

Site and Planning Refs.	Proposal	Decision Date	Operational, consented, In determination	Address	Distance from site
SITE A 22/01840/FULM	Construction and Operation of a Battery Energy Storage System and associated grid connection infrastructure.	7 th July 2023	Refused (therefore not considered within the cumulative assessment)	Land South Of Staythorpe Road Staythorpe	1.2km southwest
SITE B 23/00317/FULM	Construction and operation of Battery Energy Storage System (BESS), transformer/sub-station and associated infrastructure.		In determination	Land Off Staythorpe Road Averham	c. 400m southwest
SITE C 22/00975/FULM	Proposed solar development, access and associated works.		In determination	Land At Knapthorpe Lodge Hockerton Road Cauntton	c. 2.8km northwest
SITE D 22/00976/FULM	Proposed solar development, access and associated works		In determination	Field Reference Number 2227 Hockerton Road Cauntton	c. 2.7km northwest



2. POLICY CONTEXT

2.1 PLANNING POLICY

- 2.1.1 This section sets out the landscape and visual focussed planning policies and material considerations, which are relevant both to the site and the type of development proposed, giving consideration to National, and local planning policy.
- 2.1.2 Section 38 of the Planning and Compulsory Purchase Act 2004 requires planning applications to be determined in accordance with the provisions of the Development Plan. See the Planning Statement for the full consideration of relevant policies. Given the primacy of the development plan in the decision-making process, the planning statement identifies and summarises those planning policies of relevance to the determination of the planning application.
- 2.1.3 In addition to local planning policy, this section also summarises the material considerations of relevance at a national level, in the form of the National Planning Policy Framework.

The National Planning Policy Framework (NPPF)

- 2.1.4 The UK government published a further revision to the NPPF in September 2023 following that of July 2021 and February 2019. This forms national planning policy and is a material consideration in planning decision. It seeks to support the requirement for sustainable development via the planning system whereby the “presumption in favour of sustainable development” forms the overarching role.
- 2.1.5 In achieving this role,
“The presumption in favour of sustainable development does not change the statutory status of the development plan at the starting point for decision making. Where a planning application conflicts with an up-to-date development plan (including any neighbourhood plans that form part of the development plan), permission should not usually be granted. Local planning authorities may take decisions that depart from an up-to-date plan, but only if material considerations in a particular case indicate that the plan should not be followed.”
- 2.1.6 In terms of decision making the framework means:
- c) “Approving development proposals that accord with an up-to-date development plan without delay; or
 - d) Where there are no relevant development plan policies, or the policies which are most important for determining the application are out of date, granting permission unless:
 - i. The application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or
 - ii. Any adverse impacts of doing so would SUBSTANTIALLY and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole”.
- 2.1.7 Section 15 of the NPPF relates to conserving and enhancing the natural environment. Paragraph 174 states that:
“Planning policies and decisions should contribute to and enhance the natural and local environment by:
- a) Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils...
 - b) Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services...”.
- 2.1.8 This LVIA will consider landscape and visual (and wider environmental) issues raised in the NPPF with analysis of local planning policy and supported by landscape character assessments and the Natural England’s National Character Area profiles. Landscape Character Assessment is a tool to help understand the character and local distinctiveness of the landscape and identify the features that give it a sense of place.

2.2 DEVELOPMENT PLAN

Newark & Sherwood Local Development Framework

- 2.2.1 The Development Plan for the District comprises the Amended Core Strategy (adopted 7th March 2019) and Allocations & Development Management (adopted 16th July 2013) Development Plan Documents.
- 2.2.2 The main policies within the Local Development Plan are contained within the Planning Statement, however those with a landscape and visual / environmental focus are additionally referenced in the following section.

Table 2: Landscape and Visual Related Planning Policy

Policy	Commentary
<u>Policy DM4 Renewable and Low Carbon Energy Generation</u> <i>In order to achieve the commitment to carbon reduction set out in Core Policy 10, planning permission will be granted for renewable and low carbon energy generation development, as both standalone projects and part of other development, its associated infrastructure and the retro-fitting of existing development, where its benefits are not outweighed by detrimental impact from the operation and maintenance of the development and through the installation process upon:</i> <i>1. The landscape character or urban form of the district ...</i> <i>3. Heritage Assets and or their settings;</i> <i>4. Amenity, including noise pollution, shadow flicker and electro-magnetic interference;</i> <i>5. Highway safety;</i> <i>6. The ecology of the local or wider area; or</i> <i>7. Aviation interests of local or national importance.</i>	The Landscape and Visual Impact Assessment considers the integration of the scheme into the surrounding landscape reviewing effects to the landscape character and visual amenity in the local area; see conclusions. The proposal is an appropriate scale for its location. The site benefits from mature hedgerow boundaries and is an undesignated area of landscape within an existing arable farmland. The deployment area is inset from the site boundaries which provide a degree of visual containment and reduces visibility from nearby settlements and public rights of way. A suitable offset to the existing Public Right of Way corridor running through the west side of the site is provided. Given the existing ecological features on site, the proposed site layout has been guided by detailed ecological surveys and an extensive design iterative process has been undertaken to minimise impact and enable the incorporation of mitigation where required. Extensive archaeological survey work has been undertaken at the site and where there is known archaeological features on site an alternative low impact mounting system for the solar frames has been used and where necessary soil has been raised up so that minimal disturbance is made within these assigned archaeological mitigation zones. Considering the separation distance to (and limited numbers of) local receptors, it is considered that there would be a low level of detrimental impact on local amenity.

Policy	Commentary
	The proposal is therefore considered to be in accordance with the objectives of this policy.
Policy DM5 Design <i>In accordance with the requirements of Core Policy 9, all proposals for new development shall be assessed against the following criteria:</i> ... 3. <i>Amenity</i> <i>The layout of development within sites and separation distances from neighbouring development should be sufficient to ensure that neither suffers from an unacceptable reduction in amenity including overbearing impacts, loss of light and privacy.</i> <i>Development proposals should have regard to their impact on the amenity or operation of surrounding land uses and where necessary mitigate for any detrimental impact.</i> <i>Proposals resulting in the loss of amenity space will require justification.</i> 4. <i>Local Distinctiveness and Character</i> <i>The rich local distinctiveness of the District's landscape and character of built form should be reflected in the scale, form, mass, layout, design, materials and detailing of proposals for new development.</i> <i>In accordance with Core Policy 13, all development proposals will be considered against the assessments contained in the Landscape Character Assessment Supplementary Planning Document...</i> <i>Where local distinctiveness derives from the presence of heritage assets, proposals will also need to satisfy Policy DM9.</i> 5. <i>Trees, Woodlands, Biodiversity & Green Infrastructure</i> <i>In accordance with Core Policy 12, natural features of importance within or adjacent to development sites should, wherever possible, be protected and enhanced. Wherever possible, this should be through integration and connectivity of the Green Infrastructure to deliver multi-functional benefits.</i>	The Landscape and Visual Impact Assessment considers the integration of the scheme into the surrounding landscape reviewing effects to the landscape character and visual amenity in the local area; see conclusions. Mitigation proposals were developed with the design team to minimise any adverse visual effects on the visual amenity of residents and landscape receptors. This included the addition of landscape bunding to the northern end of the site to provide screening of the solar arrays from properties on Broadgate Lane.
Core Policy 12 –Biodiversity and Green Infrastructure <i>The District Council will seek to conserve and enhance the biodiversity and geological diversity of the District by working with partners to implement the aims and proposals of the Nottinghamshire Local Biodiversity Action Plan, the Green Infrastructure Strategy and the</i>	The scheme has adopted a landscape and ecological led approach to respond positively to the landscape setting of the site and wider area and enhance biodiversity at the site. The existing marginal habitats on site are fully retained new grassland habitats will

Policy	Commentary
<i>Nature Conservation Strategy. The District Council will therefore:</i> • <i>Expect proposals to take into account the need for continued protection of the District's ecological, biological and geological assets. With particular regard to sites of international, national and local significance, Ancient Woodlands and species and habitats of principal importance identified in Section 41 of the Natural Environment and Rural Communities Act 2006 and in the Nottinghamshire Local Biodiversity Action Plan;</i> • <i>Seek to secure development that maximises the opportunities to conserve, enhance and restore biodiversity and geological diversity and to increase provision of, and access to, green infrastructure within the District;</i> • <i>Promote the appropriate management of features of major importance for wild flora and fauna;</i> • <i>Support the development of a Green Infrastructure Network, as illustrated in the Green Infrastructure Diagram, linking together Key Strategic Routes throughout the District and providing for, in appropriate locations, visitor infrastructure that improves accessibility...</i> <i>Development proposals crossing or adjacent to the network should make provision for its implementation and/or enhancement;...</i>	be created. Following decommissioning of the facility the site can be returned to agricultural use. The majority of the boundary habitats for the site and the field compartments (hedgerows and woodland edge) will remain unaffected during construction and operation of the proposal. The scheme also includes a number of enhancement measures that will be implemented within the site during the operational phase of the scheme. The proposal is therefore considered to be in accordance with this policy.
<u>Policy DM9 Protecting and Enhancing the Historic Environment</u> <i>In accordance with the requirements of Core Policy 14, all development proposals concerning heritage assets will be expected to secure their continued protection or enhancement, contribute to the wider vitality, viability and regeneration of the areas in which they are located and reinforce a strong sense of place...</i> <u>Conservation Areas</u> <i>Development proposals should take account of the distinctive character and setting of individual conservation areas including open spaces and natural features and reflect this in their layout, design, form, scale, mass, use of materials and detailing. Impact on the character and appearance of Conservation Areas will require justification in accordance with the aims of Core Policy 14.</i>	The Landscape and Visual Impact Assessment considers the integration of the scheme into the surrounding landscape reviewing effects to the landscape character and visual amenity in the local area; see conclusions. The Heritage Impact Assessment established that of the seven assets assessed, the development would have a negligible significance of impact on two (The Old Rectory and Averham Park) and a Minor impact on five (Averham Conservation Area, Kelham Conservation Area, Kelham Hall, the Church of St. Wilfrid, Averham Park House, and South Farm). These impacts are considered to be less than substantial. The proposal is therefore considered to be in accordance with this policy.
<u>Core Policy 13 – Landscape Character</u> <i>Based on the comprehensive assessment of the District's landscape character, provided by the Landscape Character Assessment Supplementary Planning</i>	The key characteristics of local landscape character are considered in section 4 of this report and an assessment as to

Policy	Commentary
<i>Document, the District Council will work with partners and developers to secure:</i> • <i>New development which positively addresses the implications of relevant landscape Policy Zone(s) that is consistent with the landscape conservation and enhancement aims for the area(s) ensuring that landscapes, including valued landscapes, have been protected and enhanced.</i>	whether these would be 'Substantially' affected by the development proposals.

- 2.2.3 Overall, it is considered that the proposed solar farm and BESS development is consistent with existing Local Plan Policies mentioned above pertaining to landscape and visual issues that could arise from the development.



3. METHODOLOGY

3.1 INTRODUCTION

- 3.1.1 The methodology for this LVIA conforms to the relevant parts of the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and IEMA, 2013). The assessment focuses on the identification of likely landscape and visual effects, including those that are, positive and negative, direct and indirect, long, medium and short term, and reversible and irreversible, as well as cumulative effects.
- 3.1.2 Detailed explanation of the methodology including the basis on which judgements have been made on the sensitivity of the receptors, magnitude of change and level of effects is contained within **Appendix LVIA 1**.
- 3.1.3 For the purposes of clarity, the European Landscape Convention (ELC) (2000), defines the term 'landscape' as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors".
- 3.1.4 The ELC confirms that the landscape should be considered as a resource in its own right. It provides an integrated way of conceptualising our surroundings and is increasingly considered to provide a useful spatial framework for thinking about a wide range of environmental, land use and development issues. The ELC applies to all landscapes; natural, rural, urban and peri-urban areas, including land, inland water and marine areas. It considers landscapes that might be considered outstanding as well as every day or degraded landscapes.
- 3.1.5 Assessment guidance has also been taken from the following publications:
- Council of Europe, The European Landscape Convention (2000, ratified 2006) ETS no. 175.
 - An Approach to Landscape Sensitivity Assessment – To Inform Spatial Planning and Land Management, Natural England, June 2019.
 - An Approach to Landscape Character Assessment, Natural England, October 2014.
 - Landscape Institute Advice Note 06/19 – Visual Representation of Development Proposals. Landscape Institute, (Sept 2019).
 - Landscape Institute Technical Guidance Note 02/21 – Assessing landscape value outside national designations, (May 2021).
- 3.1.6 Additional guidance has also been taken from the following publications:
- Solar parks: maximising environmental benefits (TIN101) Natural England, 2011.
 - Planning Guidance for the Development of Large Scale Solar Ground Mounted PV Systems, BRE and National Solar Centre, 2013.
 - National Solar Centre Biodiversity Guidance for Solar Developments, BRE and National Solar Centre, 2014.

Assessment Process

- This LVA assessment has 3 key stages, summarised as follows:
- Baseline – gathering of documented information; existing landscape character studies, identification of landscape and visual receptors, scoping of the assessment, agreement of viewpoints and assessment parameters, discussion with relevant consultees and the local planning authority, site visits and initial reporting of design issues with client designer;
- Design – Review of initial design and ongoing design iterations following baseline survey, including responses to other specialisms e.g. ecology and cultural heritage. Consideration of mitigation options and enhancement (where appropriate); and,
- Assessment – involves of an assessment of the landscape and visual effects of the scheme, involves site and desk based survey and assessment.

Landscape and Visual Effects

- 3.1.7 LVA is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity (GLVIA 2013, para 1.1).

- 3.1.8 Landscape and visual effects are assessed separately within the LVA, “the assessments are known as impact assessments but the European Union Directive refers to assessment of the effects, which are changes arising from the development that is being assessed” (GLVIA 2013, para 1.15). Impact is defined as ‘action being taken’ and the effect is defined as the ‘change resulting from the action’.
- 3.1.9 Landscape effects are defined as “An assessment of landscape effects deals with the effects of change and development on landscape as a resource. How the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character” (GLVIA 2013 para 5.1).
- 3.1.10 Visual effects are defined as “An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity. Assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements” (GLVIA 2013 para 6.1).

Level of Effect

- 3.1.11 The assessment will consider the landscape and visual baseline characteristics within the defined study area, together with an assessment of landscape and visual effects. Effects will be considered to be either ‘Substantial’ or ‘Not Substantial’ in accordance with the criteria in the methodology. ‘Substantial’ effects are those that should be considered in the eventual decision, effects that are ‘Not Substantial’ are of a lesser concern.
- 3.1.12 This assessment is for a scheme which does not constitute EIA development; the Landscape Institute has issued advice in relation to L&V Impact Assessments (Assessments) outside a formal EIA process in its ‘Statement of Clarification 1/13’:

“In carrying out assessments, the same principles and process as LVIA may be applied but, in so doing, it is not required to establish whether the effects arising are or are not SUBSTANTIAL given that the exercise is not being undertaken for EIA purposes. ... The emphasis on likely ‘SUBSTANTIAL effects’ in formal LVIA stresses the need for an approach that is proportional to the scale of the project that is being assessed and the nature of its likely effects. The same principle – focussing on a proportional approach – also applies to assessments of landscape and visual impacts outside the formal requirements of EIA”.

- 3.1.13 The detailed criteria used to determine the level of effect is listed in Appendix 4.6.1 Methodology. As with all LVIAs, it should be noted that while the methodology is designed to be robust and transparent, in line with best practice, professional judgement is finally applied to determine the level of effects, and whether the effects are considered ‘Substantial’ or ‘Not Substantial’.

Timescale of Effects

- 3.1.14 The principal landscape and visual effects, which may be reversible, occur during the operational lifetime of the development, considered to be permanent (due to the length of permission applied for in this instance). The effects of the development are likely to reduce as mitigation planting matures.

Seasonal Effects

- 3.1.15 Within the assessment consideration is given to the seasonal differences in effects arising from the varying degree of screening and/or filtering of views by vegetation that will apply year round. The assessment considers the visual screening effects that vegetation would provide in both summer and winter months (when deciduous vegetation is not in leaf), and if it is considered that there would be substantial differences in the screening and/or filtering of vegetation between the summer and winter months, it will be stated.

Subjectivity of the Nature of Effects

- 3.1.16 This LVIA does not state explicitly whether the effects of the development on landscape and visual amenity is adverse, neutral or beneficial. However, it is acknowledged that the GLVIA 2013 states that professional opinion should be applied, and a positive or negative judgement stated (Para 5.37 and

6.29).

- 3.1.17 It is commonly accepted that the nature (or valency) of effects of a development are subjective based upon the attitude of the individual.
- 3.1.18 In accordance with GLVIA a 'precautionary approach' is taken and therefore, although the nature of effects is not stated within the assessment, effects would be negative unless stated otherwise. This precautionary approach of negative effects should be considered with the caveat that the valency of effect must always be considered by the decision makers, the approach should not be concluded to be the final judgement and it should be acknowledged that many people may see the development as either a positive or neutral addition.

Assessment Limitations

- 3.1.19 The assessment of landscape and visual effects is undertaken from publicly accessible locations only including; roads, parks and public rights of way to represent potential impacts on a range of receptors. Consideration of the effect on views from residential receptors is undertaken from representative publicly accessible points and analysis of map data. This assessment does not consider or assess impacts from every theoretical location where the development would be visible.



4. LANDSCAPE ASSESSMENT – BASELINE DESCRIPTION

4.1 INTRODUCTION

- 4.1.1 An overview of the existing landscape for both the application site and the wider study area as a whole has been determined by observations made during site visits and review of the published Landscape Character Assessments (LCA).
- 4.1.2 It follows from the above that in order to assess whether landscape character is ‘substantially’ affected by a development, it should be determined what and how each of the key characteristics would be affected. The judgement of magnitude therefore reflects the degree to which the key characteristics and elements which form those characteristics will be altered by the proposals. The scale of the development, the nature and sensitivity of the receiving landscape, and local ‘barriers’ in the landscape (such as breaks of topography, woodlands, settlements, and roads or rivers) will influence the exact extent of effect of the development.
- 4.1.3 The boundaries of the Landscape Character Areas are illustrated on Drawing HC1002 02 04 Landscape Character Areas.

4.2 NATIONAL LANDSCAPE CHARACTER

- 4.2.1 National Character Areas (NCAs) produced by Natural England are a widely recognised national spatial framework which subdivides the landscape of England into 159 distinctive landscape character areas. At a national level the application site is within NCA 48 Trent and Belvoir Vales
- 4.2.2 The key landscape characteristics of NCA 48 pertinent to the application site include:
- “A gently undulating and low-lying landform in the main, with low ridges dividing shallow, broad river valleys, vales and flood plains. The mature, powerful River Trent flows north through the full length of the area, meandering across its broad flood plain and continuing to influence the physical and human geography of the area as it has done for thousands of years.
 - The bedrock geology of Triassic and Jurassic mudstones has given rise to fertile clayey soils across much of the area, while extensive deposits of alluvium and sand and gravel have given rise to a wider variety of soils, especially in the flood plains and over much of the eastern part of the NCA.
 - Agriculture is the dominant land use, with most farmland being used for growing cereals, oilseeds and other arable crops. While much pasture has been converted to arable use over the years, grazing is still significant in places, such as along the Trent and around settlements.
 - A regular pattern of medium to large fields enclosed by hawthorn hedgerows, and ditches in low-lying areas, dominates the landscape.
 - Very little semi-natural habitat remains across the area; however, areas of flood plain grazing marsh are still found in places along the Trent.
 - Extensive use of red bricks and pantiles in the 19th century has contributed to the consistent character of traditional architecture within villages and farmsteads across the area. Stone hewn from harder courses within the mudstones, along with stone from neighbouring areas, also feature as building materials, especially in the churches.
 - A predominantly rural and sparsely settled area with small villages and dispersed farms linked by quiet lanes, contrasting with the busy market towns of Newark and Grantham, the cities of Nottingham and Lincoln, the major roads connecting them and the cross-country dual carriageways of the A1 and A46...”
- 4.2.3 Although the National Character Areas defined by the Character of England exercise are acknowledged and useful to give a regional context, it is considered that they are too large scale to be meaningfully incorporated into a focused landscape assessment. The more detailed County or District / Borough landscape assessments are more suitable vehicles for undertaking the assessments of effects upon landscape character 1 and are duly considered.

¹ It should be noted that the County and District assessments often use the National Character Areas as a basis for their more detailed landscape character assessments.

4.3 DISTRICT LANDSCAPE CHARACTER

- 4.3.1 The Landscape Character Assessment for the District of Sherwood and Newark forms part of the wider assessment for Nottinghamshire County.

‘The LCA offers an objective methodology for assessing the varied landscape within Newark and Sherwood and gives a greater understanding of what makes the landscape within the District locally distinctive. This is reflected through the identification of Policy Zones across the 5 Landscape Character Types represented within Newark and Sherwood’

- 4.3.2 The site is set wholly within the **Trent Washlands Regional Character Area**. The regional character area is then split into Landscape Policy Zones. TW11 covers the vast majority of the site area, with a small portion of the north west area of the site covered by TW32 adjacent to Kelham Hills Wood.

- 4.3.3 The Trent Washlands can be subdivided into two distinct landscape types which occur in Newark and Sherwood. The site is predominantly located within the **‘River Meadowlands LCT’** landscape type with part of the site (north west corner, in the adjacent **‘Village Farmlands LCT’**

Trent Washlands Policy Zone TW PZ 11: Cromwell, North and South Muskham, Kelham Averham, Staythorpe and Rolleston Village Farmlands

(Policy: Conserve and Create).

This is a predominantly flat, large scale, arable landscape with large semi-irregular fields; often with low trimmed gappy hedgerows. Smaller fields of pasture / hay lie adjacent to settlements. The Landscape Sensitivity of Trent Washlands Policy Zone TW PZ 11 is **Moderate**. The Landscape Condition of Trent Washlands Policy Zone TW PZ 11 is **Moderate**.

Trent Washlands Policy Zone TW PZ 32: Kelham Hills River Meadowlands

(Policy: Conserve)

Part of Kelham Hills former Mature Landscape Area within the Trent Washlands, this is an area of mixed farming with small to medium sized fields of pasture and arable land. The historic field pattern is largely intact with tall and bushy mixed species hedgerows. The Landscape Sensitivity of Trent Washlands Policy Zone TW PZ 32 is **High**. The Landscape Condition of Trent Washlands Policy Zone TW PZ 32 is **Good**.

- 4.3.4 The key landscape characteristics of the Village Farmlands LCT pertinent to the application site include:

- A flat, large scale intensive arable landscape.
- Medium to large-sized semi-irregular fields with hedgerows intact but fragmented in places.
- Smaller field sizes adjacent to villages with pasture.
- Landscape fragmented by busy roads and railway.
- Winding roads between the villages with strong hedgerows.
- Nucleated villages with red brick and pantile roofed buildings to the historic core.

Table 3: Landscape Sensitivity: TW PZ 11 Cromwell, North and South Muskham, Kelham, Averham, Staythorpe and Rolleston Village Farmlands

Distinctiveness:	Characteristic
Continuity:	Historic
Sense of Place:	Moderate
Landform:	Apparent
Extent of Tree Cover:	Intermittent
Visibility:	Moderate

- 4.3.5 The LCA makes the following comments on Landscape Condition:

“The Landscape Condition is defined as moderate. The landscape has been fragmented in places by transport routes, including the busy A1 to the north east of the area. There are some detracting features which include the National Grid power station to the south of Averham, pylons, the railway line and busy roads. There is some commercial development, not always in keeping with a rural landscape. Overall the area is visually coherent.”

The historic field pattern has largely disappeared but, where hedgerows have been allowed to grow tall and bushy, they provide a moderate network for wildlife. There are a few small isolated woodland blocks, but tree cover is largely along transport routes, to the periphery of restored gravel workings and with occasional hedgerow trees.

4.3.6 The LCA makes the following comments on Landscape Sensitivity:

*“The Landscape sensitivity is defined as **moderate**. The historic time-depth has been degraded by intensive arable farming, transport routes and mineral extraction. However, the historic settlement with small areas of pasture and narrow county roads are characteristic of the Trent Washlands LCA. The historic parkland landscape still exists around Kelham Hall. The villages of Kelham and Averham are designated conservation areas. Overall the sense of place is **moderate**.”*

*“Views are often open due to lack of tree cover and the flat valley landform. Within villages, and along winding often narrow country roads with hedgerows, views are more enclosed. The visibility of the PZ is **moderate**.”*

4.3.7 The LCA makes the following recommendations on Landscape Actions:

Landscape features

- Conserve and restore the traditional pattern of hedged fields – seek opportunities to restore the historic field pattern.
- Conserve the historic woodland and parkland landscape around Kelham Hall.
- Seek opportunities to restore arable land to permanent pasture/wet alluvial grassland close to the River Trent.
- Promote measures for strengthening the existing level of tree cover.
- Strengthen the continuity and ecological diversity of stream corridors.

Built Features

- Create small scale woodlands/tree planting to soften new development, preferably in advance of development.

4.4 LANDSCAPE SCALE AND VISIBILITY

4.4.1 At a local level the site is defined by its location within the rural fringe close to nearby villages Kelham to the west and Averham to the south. The main detractors within the site and immediate vicinity are the series of overhead transmission lines which pass through the area to the west picked up in local views inclusive of the site. The field structure is one of medium to large scale arable fields which is bound by mature hedgerows in varying condition and completeness (generally managed to a low-level) and occasional hedge trees which provide further localised screening.

4.4.2 At a site level the scale is generally open due to the flat topography of the arable fields with only slight changes in level across the site and its immediate setting. Land within the site varies only slightly, set between 14-17m AOD. The topography continues to be fairly flat in the immediate area around the site with localised highpoints further to the south west (Micklebarrow Hill, 55m aod) and to the north (Debdale Hill, 54m aod, South Muskam CP) which are both c.1.5km from the site boundaries. In general, the degree of theoretical visibility reduces markedly beyond 1km from the site.

4.4.3 Conversely, the more sensitive area set close to the site, inclusive of land within Kelham Conservation Area is very well screened by the band of woodland to the immediate east in between the site and neighbouring Kelham Country House and Kelham Hall. Land further to the east within the Trent River floodplain is similarly unchanging beyond the extents of Kelham and Averham villages.

- 4.4.4 The Trent Valley Way heads north through the study area passing the site where it follows the A617 on route to Kelham, for a short distance adjacent to the south west corner. Away from the road corridor the route heads east where land gently falls away towards the River Trent (c11-13m AOD) where it the route is set down with no intervisibility with the site and landscape west of Kelham village.
- 4.4.5 Visibility is influenced by the scale of the landscape which is the extent of enclosure and variation in topography, which combine in determining the sensitivity of a particular landscape to change. At the site level, ground level visibility is further defined by the internal hedgerow field boundary subdividing the two larger arable fields which precludes all areas of the site being visible together and hedgerows bounding the outside which are managed to varying heights and in places includes hedgerow trees which provide additional screening.

4.5 LANDSCAPE VALUE

- 4.5.1 The landscape value of a site in its context needs to be assessed as part of carrying out a Landscape and Visual Impact Assessment (LVIA). The current guidance for LVIA/LVA is the third edition of Guidelines for Landscape and Visual Impact Assessment (GLVIA3; LI and IEMA, 2013) which states that the value of a landscape should be assessed as one of two components of landscape sensitivity. Landscape value is the 'inherent' component, which is independent of the development proposal, while the other component, susceptibility, is development specific.
- 4.5.2 The landscape value of the site and the immediate adjoining area is considered with reference to the indications of Landscape Value as identified in Table 1.2 of the Methodology (Appendix 1). The following table provides an analysis of each of the indications and classifies the landscape value in accordance with the Methodology.

Table 4: Landscape Value Criteria and Assessment

Landscape Indications / Value Considerations	Description	Value Method Criteria	Value Assessment
Natural Heritage (Site and Immediate Context)	The site is comprised of flat arable farmland in open countryside typical of the wider character area. The main wildlife and landscape habitat is provided by the hedgerow field boundaries and woodland bordering the adjacent Kelham Country House and Kelham Hall. A circular walking route from Kelham village heads west through the site using the existing PRoW and site access track from Broadgate Lane continuing past Kelham Hills, and on to Averham Park and Muskham Wood and back to Kelham.	The site's landscape is overall <i>"commonplace within the region and has no specific landscape or ecological designations and provides limited habitat value."</i> Character as a whole is not distinctive and is replicated across the wider farmed landscape throughout the locality. Some public amenity by way of views, access and biodiversity, including the footpath bisecting the site from Broadgate Lane and nearby heritage visitor assets.	Medium
Natural Heritage (Study Area- Village Farmlands LCT and small area of River Meadowlands LCT)	The character displayed across the rest of the study area is broadly similar to that of the site which is also largely comprised of open arable farmland with some smaller pastures. Kelham Hills is a localised area of higher sensitivity, the woodland designated as a Site of Interest for Nature Conservation and this area also contains some smaller fields laid out to pasture with more intact historic enclosures evident. In general the locality has reasonably defined landscape structure with medium to large scale fields bounded by hedgerows. Smaller field enclosures tend to be located at the edge of the village settlements. Reasonably pleasant views inclusive of historic nucleated villages with attractive settings (Kelham and Averham) but wider landscape around these not overly distinctive and typical of the wider area. The presence of the Newark urban area and its urban influences including OHT's as well as intensive agricultural practices with an associated loss of some historic enclosures. A working landscape in open countryside with no landscape specific designations	<i>"Does not lie within or adjacent to a designated landscape. "</i> The surrounding wider landscape does <i>"present some amenity value by way of access and views with some scenic interest and distinctive features."</i> <i>Lies close to designed landscapes of Kelham Hall and Country House but not designated and well enclosed from these sites.</i>	Medium

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Cultural Heritage (Site and Immediate Context)	The Archaeological Desk Based Assessment and field study visit concluded: <i>"The proposed development does not have any direct or indirect impact on Scheduled Monuments. The impact of the proposed development on Averham Conservation Area is considered Negligible. Contrastingly, while Kelham Conservation Area has no direct views over the proposed development, it is located in close proximity to the site. The magnitude of the impact is therefore considered Moderate. Suitable mitigation measures that lessen the impact over the Conservation Area are achievable. The latter should be drawn through the results obtained during the production of a Heritage Impact Assessment."</i>	<i>The site and immediate vicinity is of low importance and rarity at local scale. Whilst the site is close to historic landmarks and designed landscapes (although undesignated) these are distinct and separate to the site and have limited intervisibility to it.</i>	Medium
Cultural Heritage (Study Area- Village Farmlands LCT and small area of River Meadowlands LCT)	There are 2 Conservation areas and several listed building close to the site but these have limited intervisibility to the site as they are in well wooded settings and the impact of ground level solar panels would be very limited. The Archaeological Desk Based Assessment and field study visit states: <i>...while Kelham Conservation Area has no direct views over the proposed development, it is located in close proximity to the site. The magnitude of the impact is therefore considered Moderate. Suitable mitigation measures that lessen the impact over the Conservation Area are achievable. The latter should be drawn through the results obtained during the production of a Heritage Impact Assessment."</i> <i>The impact of the proposed development on Averham Conservation Area is considered Negligible.</i> Wider working arable landscape has evidence of cultural features such as cropmarks which require further site investigation to ascertain their overall importance.	<i>Local and regional important sites (Kelham Country House and Kelham Hall) although undesignated landscapes are important visitor destinations</i>	Medium
Landscape Condition (Site and Immediate Context)	The site is relatively well managed in a typical agricultural sense (intensively farmed) and in good general overall condition but with some hedgerow field boundaries requiring gapping up or rejuvenating. There are some gaps present and occasional breaks in boundaries more so along eastern boundary with A617. The other	<i>Areas identified as having some redeeming feature(s) and possibly identified for improvement. Does not lie within or adjacent to a designated landscape. Presents some locally distinctive landscape characteristics such as woodland blocks and some mature trees bounding the site with some scenic interest that would have limited potential for substitution but is nevertheless</i>	Medium

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	outer boundaries generally provide effective screening from the surrounding landscape. Mature trees are present within the hedgerows but with scope for additional planting. Area around Kelham Hills more sensitive and in better condition although smaller pastures in north west part of the site now taken out of deployment following earlier (now superseded) feasibility layouts.	<i>commonplace in the locality. Good Grade 3 quality arable farmland. Limited public amenity value save for single footpath through the site.</i>	
Landscape Condition (Study Area- Village Farmlands LCT and small area of River Meadowlands LCT)	Landscape areas outside of the immediate setting are much the same as the site in moderate overall condition in a well-defined but to a degree open, arable farming landscape. Landscape structure reasonable with some mature hedgerows which are generally well maintained and kept low allowing for some longer range views though still generally terminated by hedge lines of the minor road network. Some detracting features such as OHT lines and busy roads and a loss of historic field pattern which has fragmented the landscape.	<i>As per the site "Areas identified as having some redeeming feature(s) and possibly identified for improvement. Does not lie within or adjacent to a designated landscape."</i> <i>Does contain some distinctive features</i> <i>"Presents some locally distinctive landscape characteristics with some scenic interest."</i> <i>The LCA assesses the</i>	Medium
Associations (Site and Immediate Context)	The site is not known to be associated with any historical events or people that contribute to perceptions of natural beauty of the local area and site. Nearby Kelham Hall (Georgian C18th) is an important visitor destination and Grade I listed building. Its wooded setting is however not closely associated to the site itself although it is in close proximity.	Presents some locally and regionally important / distinctive landscape characteristics and distinctions	Medium
Associations (Study Area- Village Farmlands LCT and small area of River Meadowlands LCT)	The study area is not known to be associated with any historical events or people that contribute to perceptions of natural beauty of the local area and site. Kelham Village and its Conservation area which includes Kelham Country House and Kelham Hall have a limited functional relationship with the Site despite their proximity.	Wider study area is mainly working landscape of arable farmland and some pastoral farmland generally is not known to be associated with important cultural events or people. However, it does <i>present some locally important landscape characteristics and distinctions.</i>	Medium
Distinctiveness	The site does not have any features that aren't commonplace in the local area.	<i>Low importance and rarity at a local scale. Presents some locally distinctive characteristics with some scenic interest.</i>	Low

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(Site and Immediate Context)			
Distinctiveness (Study Area- Village Farmlands and small area of River Meadowlands LCT)	The study area does present some characteristic features such as hedgerow field boundaries and nearby woodland plantations (Kelham Hills) but these are found in numerous locations across the locality. Much of the wider arable area that is functionally connected to the site, whilst well-defined is not distinct and is commonplace across the local region.	<i>Medium importance and rarity at a local scale. Overall the large areas of arable farmland are commonplace across the locality and region but smaller scale distinctive pastures are present</i> <i>Presents some locally distinctive characteristics with some scenic interest such as the smaller scale pastures around Kelham Hills with historic enclosures evident .</i>	Low-Medium
Recreational Value (Site and Immediate Context)	There is a reasonably well connected public rights of way network in the local area with links from the surrounding villages inclusive of a permissive circular walking route from Kelham that utilises the site access (PROW) before heading west via Averham Farm. But site is working arable farm which limits recreational value.	<i>Low importance and rarity at local scale. The site itself does not present important public amenity value by way of views, quiet enjoyment and access but is part of an onward circular route . The immediate setting presents some amenity value by way of views, access, biodiversity, cultural or opportunity for quiet enjoyment (tranquillity)</i>	Low
Recreational Value (Study Area- Village Farmlands and small area of River Meadowlands LCT)	The study area contains large areas of farmland but does benefit from a reasonably well connected network of local footpaths. Conversely, there are large tracts of inaccessible arable farmland and minor road network linking dispersed villages across the wider study area reduce the overall amenity in terms of public access and wider recreational opportunities. Regional route Trent Valley Way also close to site (using A617 for part of route abutting site before heading north to Kelham and then wet to Newark-Upon-Trent	<i>Presents locally important amenity value by way of views, access and opportunity for quiet enjoyment within network of local paths .</i>	Medium

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Perceptual (Scenic) (Site and Immediate Context)	The site itself is part of some reasonably attractive views looking westwards from the edge of Kelham and Averham over open arable landscape framed by hedgerows and woodland blocks including Kelham Hills to the north west of the site. This vegetation helps to contain the site and immediate context from distant views in from the west. Site and immediate context are though not overly distinctive and landscape type and characteristics are commonplace. Kelham Country House and Kelham Hall designed areas of landscape within Kelham Conservation area in close proximity to the east of the site but these are well screened and distinct from the site within well wooded settings.	Site and immediate context <i>“present some amenity value by way of views, access and opportunity for quiet enjoyment”</i> but limited due to it being a working arable landscape and detractors such as OHT towers to the south and at eastern edge of the site. <i>Does lie adjacent to a designed landscape but not designated area of landscape.</i> (Kelham Country House and Kelham Hall).	Medium
Perceptual (Scenic) (Study Area- Village Farmlands and small area of River Meadowlands LCT)	The wider study area beyond the site is mostly arable farmland of a comparable scale to that of the site and typical of the locality and wider region. Areas beyond the immediate context are afforded some attractive longer views but these are also over a commonplace farming landscape that is not overly distinctive. Hedgerow field boundaries generally restrict ground level views over the relatively flat topography in the wider area which limits also limits the visual extent of areas where views towards the site area are possible. (Refer to ZTV Dwg HC1002 02 03)	<i>Presents some public amenity by way of views, access, and opportunity for quiet enjoyment. Presents some locally important landscape characteristics such as well-defined hedge line fields and nucleated villages dispersed across the minor road network. and impressive distant views.</i>	Medium
Perceptual Aspects (wildness and tranquillity) (Site and Immediate Context)	The site is arable farmland which has a degree of tranquillity although this will vary across the seasons with more intensive periods of activity reducing the sense of any wildness or tranquillity.	The site <i>presents some opportunity for quiet enjoyment (relative tranquillity)</i> more so to its eastern side linked by the footpath bisecting the site which is set further away from the busy A617 which links the two villages of Averham and Kelham.	Low-Medium
Perceptual Aspects	As per the site the majority of the study area is arable farmland which has a degree of tranquillity although this will vary across the seasons	<i>The Study area presents some amenity value by way of views, access, biodiversity, cultural or opportunity for quiet enjoyment (tranquillity).</i>	Low-Medium

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(wildness and tranquillity) (Study Area- Village Farmlands and small area of River Meadowlands LCT)	with more intensive periods of activity reducing the sense of any wildness or tranquillity. Tranquillity increases to the west and north and south when away from the A6217 although this route cuts through the study area landscape and exerts a strong influence with associated urban land uses and loss of tranquillity nearby.		
Function (Site and Immediate Context)	The site is functionally limited given it arable farmland with single species field crops and is mainly private land which has limited levels of public accessibility. It has some wildlife habitat value by way of hedgerows and boundary trees which also serve to define the landscape structure typical of the locality.	<i>Does not have an irreplaceable functional role. Does not provide multiple uses or function as a widely accessible Green Space Asset. Does provide wildlife habitat connectivity via hedgerow boundaries but limited in terms of its functional diversity (single species arable field crops)</i>	Low
Function (Study Area- Village Farmlands and small area of River Meadowlands LCT)	The study area is slightly more diverse providing a well-defined landscape structure with large scale arable fields divided by a network of hedges aligned to the minor road network and occasional woodland blocks (e.g. Kelham Hills) Levels of public access vary, are generally lower away from the villages dispersed across the area. Also the wider landscape contains some detractors such as OHT towers, busy main road corridor (A617) which also limit recreational opportunities.	<i>Presents some public amenity by way of views, access, biodiversity and opportunity for quiet enjoyment.</i> <i>Presents some locally important landscape characteristics such as wooded becks and distinct village settlements set within open countryside.</i>	Low-Medium
Landscape Value of the Site and Immediate Area Summary	Overall, through the consideration of the indicators of landscape value, the site itself is concluded to be of a Low importance and rarity at a local scale. Although not designated itself, the site's value is influenced by its location close to the nearby villages of Kelham and Averham to which it is a component part of their settings lying in close proximity to two Conservation areas. The site environs presents some locally distinctive features by way of woodland blocks and hedgerows which provide some scenic interest and biodiversity value over its main arable farming use. . It includes a public right of way bisecting the site and permissive circular route which together offer amenity value to local residents but with tranquillity limited by nearby A Road and infrastructure.		Medium

Landscape Value of the Wider Study Area- (Study Area- Village Farmlands and small area of River Meadowlands LCT) Summary	Outside of the nearby village settlements the general character and landscape features of the wider study area are much the same as the site being primarily a mixed farmed landscape although predominantly arable. Topography continues to be relatively flat and in places gently undulating with localised high points further to the west such as Micklebarrow Hill (Refer to Viewpoint 11) providing longer-range views. Field boundaries are comprised of low hedgerows generally well managed and allowing for a degree of openness widely typical of the medium to large scale arable farmland. This helps to maintain the same character and landscape condition across much of the locality. However, the presence of the Newark-on-Trent conurbation and nearby infrastructure (Staythorpe Power station and busy A roads) is often felt, especially looking east and to the south from vantage points to the west of the site. The presence of these industrial and urbanising influences is somewhat reduced by woodland blocks and hedgerow screening surrounding the site, but the oht corridor crossing the site provides a visual link to these nearby detractors which remain perceptible even when not seen. Away from the settlement edges the quieter rural minor road network offers more opportunity for quiet enjoyment of the landscape although this is limited by the fact there are few public footpaths crossing open areas of countryside providing links to important recreational destinations. The majority of paths are concentrated between the small village settlements, with minor roads often difficult to negotiate and limited east/west connectivity to the Newark-on-Trent conurbation leading to the predominance of car dependent recreational opportunities.	Medium
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Landscape Value Summary

- 4.5.3 Through the consideration of the above indicators it is considered that the application site (and the wider study area) are of **Medium** landscape value. This is further evidenced within the Newark and Sherwood landscape character assessment covering the site and study area which assessed the condition and sensitivity of the landscape as **Moderate**. The site and immediate context contains some landscape detractors namely the OHT towers and A617 road corridor and associated rural/urban fringe land uses and is functionally limited with limited public access which affects its overall value. Whilst the study area contains large tracts of open countryside to the west and north and south of the immediate context this is offset by the urbanising effect of the aforementioned urban and rural fringe land uses and activities. The site is low importance for rarity at a local scale with some redeeming features (mature hedgerows forming enclosure) but with room for improvement (infilling of hedgerows). The site interior, itself does not lie within or adjacent to a designated landscape and does not present locally important or distinctive landscape characteristics. These are comprised of the woodland blocks and village conservation areas as well as the parkland grounds of the immediate surroundings (Kelham Manor, Kelham Hall and village core) . The western side of the site offers public amenity value by way of a single public footpath running through the site which forms part of a local circular permissive route. It is proposed to have a suitable standoff from the proposed layout of solar panels so that this route will be physically unaffected by the proposed solar farm.

4.6 LANDSCAPE DESIGNATIONS

Landscape Designations within 2.5km

- 4.6.1 Landscape Planning Constraints and Designations within the study area (applicable to this LVIA) are illustrated on **Drawing HC1002 02 02 Landscape Planning Constraints**. There are no Registered Parks and Gardens (RPG), Country Parks (CP) and specific landscape designations within the Local Plan/Development Framework such as Areas of Great Landscape Value (AGLV), Special Landscape Areas (SLA) or national landscape designations such as Areas of Outstanding Natural Beauty (AONB) and National Parks (NP).
- 4.6.2 The nearby built heritage sites including the settings of Kelham Hall and Kelham Country House within Kelham Conservation Area, which whilst locally and regionally important and valued are not landscape designated sites and due to high levels of screening have limited relationship to the site. Further assessment on the setting of these assets is provided by the Desk-based Heritage Assessment to be submitted with the Planning Application.
- 4.6.3 The application site area is not covered by any landscape specific local planning designations, applicable to landscape for example a 'Special Landscape Area'. There are no other landscape planning designations within the study area with the potential to be either directly or indirectly affected by the development.

5. LANDSCAPE MITIGATION

5.1 LANDSCAPE MITIGATION

- 5.1.1 Mitigation is included as it is an integral part of the design and assessment process. The mitigation proposals incorporate features primarily for landscape and visual reasons but are additionally informed by the findings of the ecological and archaeological assessments where applicable. The Design and Access Statement explains how the site layout has evolved in response to the consultation process and following the site survey and assessment of the landscape and visual baseline.
- 5.1.2 Mitigation seeks to integrate the development into the local environment, screen views to the site from sensitive receptors and provide landscape and ecological enhancement using un-utilised land within the application boundary areas, and off site if necessary.
- 5.1.3 The layout of the Solar Farm and BESS is designed to fit within the context of the arable fields of an existing farm unit that has some public access. All existing perimeter hedgerows and trees will be retained. Access to the solar farm will be restricted by unobtrusive Deer security fencing of an agricultural style, timber post and mesh.
- 5.1.4 Appropriate buffers are incorporated into the solar farm layout to the existing vegetation (a minimum 4m standoff from hedges / trees to the site security fence) and development is restricted from within the canopy of trees and hedges.
- 5.1.5 In many places the buffers and standoffs from the solar array 'tables' are wider to incorporate existing site constraints such as the OHT corridor in the north west field, western boundary woodland block, and the potential flood alleviation ditches at the eastern site boundary (A617).

Iterative Site Layout Changes

- 5.1.6 Following an iterative design process and a review of the likely landscape and visual effects amendments were made to the site layout design to reduce the likely impacts on sensitive residential and PROW receptors in close proximity or in the case of the footpath partly within the site.
- 5.1.7 In order to provide a buffer to residents on Broadgate Lane to the immediate north with potential views over the site (generally from first floor windows) a landscaped bund has been positioned around the northern end of the solar deployment. The L-shaped bund will be grass seeded with the north facing slope planted with trees and scrub so as to provide low level screening of the arrays whilst still allowing for through views to distant woodland.
- 5.1.8 The arrangement of arrays also utilises a low profile table design (2m in height) in order to minimise the visual impact of the overall deployment so that existing hedgerow field boundaries as well as landscape bunding provides a degree of screening for residents.
- 5.1.9 The solar layout has allowed for a suitable standoff from the existing public right of way (PROW Ref: NT Kelham FP4) that passes along the farm track from Broadgate Lane. This route follows the field boundary that subdivides the site between the north west field and the larger central field. The existing hedgerow that runs to the south side of the track between the two fields already provides screening between these two sides of the site but will be augmented with additional hedgerow planting to gap up any areas as shown on the Mitigation Plan (**Refer to Drawing HC1002 05 16**). Standard tree planting will also be added set in front of the existing hedgerow to add further filtering of views from the footpath corridor as well as enhancing landscape structure.
- 5.1.10 Additional boundary planting (Standard trees underplanted with native woodland shrub has been added at the south east corner of the site along the part of the site boundary that adjoins the southern extent of Kelham Conservation Area. There is already very limited intervisibility between the Conservation Area and the site so that this additional boundary planting will help to protect its setting whilst also improving landscape structure and connectivity with existing woodland (Oak Plantation at the east side of the site) as part of a wider mitigation proposals.
- 5.1.11 A new hedgerow will be planted at the eastern boundary of the southern field to provide low level screening to views towards the site from the A617 road corridor. Existing parts of this boundary contain gappy sections of roadside hedging that allows for fairly extensive views across the site area. New hedgerow planting will filter ground level views across the site from the road corridor whilst also enhancing landscape structure and biodiversity.

- 5.1.12 The western boundary of the southern field will also be planted with a replacement hedgerow to help screen the battery units and DNO substation within the BESS compound from the surrounding farmland.
- 5.1.13 An open corridor either side of the existing OHT's that cross the north west field has been left free of solar arrays as part of necessary easement considerations.

Construction method

- 5.1.14 The construction process for the solar arrays, the main land use feature of the development, has a light footprint as the solar array mounting steel frame posts are driven directly into the fields (with no additional concrete or stone). This construction method is of a minimal disturbance to ground conditions, the land coverage of the field can remain (if pasture) and the field still remains available to be low intensity grazed, or quickly seeded if the field was in previous arable use (as is the case at this site). The current predominate agricultural characteristic is therefore part retained throughout the life span of the site. Security fencing around the site areas will be timber posts and wire mesh, reflecting the semi-rural character of the wider area. Non-intrusive CCTV cameras (motion sensitive operation only) will be mounted on poles at locations around the site boundary.
- 5.1.15 The mitigation and enhancement proposals are designed to integrate the solar farm with the landscape and reduce the landscape and visual impact of the scheme. Proposals have been developed through an iterative design process and following consultation.

Summary of Landscape and Ecological Design Mitigation Features

- 5.1.16 Due to the established setting of the site specific mitigation features are relatively limited and the scheme will be enhanced through appropriate management, over the current intensive arable farmed situation.
- 5.1.17 General landscape (and ecological) design, mitigation and enhancement features at the site are detailed within **Drawing HC1002 05 16 Landscape Mitigation** and incorporate the following:
- All existing boundaries will be retained including hedge trees. Where appropriate on boundaries such as the Broadgate lane and North west field boundary existing hedges will be allowed to grow up to at least 3m+ tall. This will assist in further screening of views within local road corridors surrounding the site as well as for views from ground level/curtilages of adjacent residential properties, in situations where existing hedges have been cut to a low level as part of current arable farming practises.
 - Beneath the panels a low maintenance grass mix will be provided for added ecological benefit, a tussock grassland mix, suitable for ground nesting birds.
 - In the min. 4m gap between the boundary hedges and site security fence, a General Purpose Meadow Mix (Emorsgate EM2 or similar approved mix) will be used but left to grow longer and subject to 2 annual cuts in order to provide additional cover and wildlife habitat adjacent to woodland blocks and hedgerow corridors.
 - Existing hedgerows will be gapped up in order to strengthen the existing landscape structure, mitigate through views into and across the site and where appropriate hedgerow trees planted to help screen long range views (in particular from surrounding countryside to the west and with Kelham Conservation Area to the northwest).
 - As all hedgerows are to be left for biodiversity purposes, annual cutting is not required, through active management there is the potential to cut at less frequent intervals providing improvements to screening and wildlife benefits.
 - Site infrastructure has been designed to be as visually recessive as is possible. This includes deer style fencing with wooden posts so that it appears lightly against the backdrop often formed of surrounding hedgerows and woodland. Site containers such as the inverters and DNO substation have been coloured Brown so as to blend in with the prevailing colour palette that surrounding vegetation has for much of the year. This is especially beneficial in winter time when vegetation is not in leaf so that site infrastructure will not contrast strongly with the background vegetation in views (Refer to mitigation views within photomontages for viewpoints 1,4,5 and 11).
 - A Permissive bridleway has been routed around the whole development providing a circular

route around the site boundaries which significantly extends the length of footpaths available at the site.

- This includes a new section of permissive bridleway 1.26km in length around the northern deployment field that links Broadgate Lane to the existing footpath Ref: NT Kelham FP4;
- The southern half of the permissive loop is extended from 1.92 km to 2.21km which takes the route around the western site boundary and BESS compound, before following the southern boundary and then returning north via the proposed access track inside of the eastern site boundary. The route then continues along the west side of Oak plantation following the route of the existing permissive route back to Broadgate Lane;
- In total 4.51km of permissive bridleway is provided which makes use of the 2 sections of existing footpaths at the western site boundary which are retained.
- The existing footpath NT Kelham FP4 (680m in length) is fully retained, and sections of hedgerow are to be gapped up to the south of this route to provide low level screening between the northern and central deployment fields.

6. ASSESSMENT OF LANDSCAPE EFFECTS

6.1 INTRODUCTION

- 6.1.1 Landscape assessment involves assessing the sensitivity of a landscape receptor against the magnitude of change that will be likely to be caused by a development to evaluate the scale of effects upon that receptor.
- 6.1.2 The nature of the effect of a development on the landscape is not an absolute scale but is a judgement based on the magnitude of the anticipated effect (or scale of change) and the sensitivity of the landscape to development.

6.2 EFFECTS ON LANDSCAPE CHARACTER – LANDSCAPE SENSITIVITY

- 6.2.1 Landscape receptors are assessed in terms of sensitivity which combines judgements of their susceptibility to the type of change or development concerned and the value attached to the landscape. Sensitivity is specific to the project/development.

Susceptibility to Change

- 6.2.2 The susceptibility to change of the landscape to the Solar farm and BESS is determined with reference to the baseline assessment of the existing landscape and described as High, Medium, or Low. It is assessed by considering the existing landscape, elements and features, landscape character and key characteristics and landscape value.
- 6.2.3 The following section outlines the likely landscape effects for each of the relevant landscape receptors
- 1. The Wider Study Area (2.5km)** including specific geographically located Landscape Character Areas >1km (inclusive of main intervisible areas) -
 - Trent Washlands Policy Zone TW PZ 11: Cromwell, North and South Muskham, Kelham Averham, Staythorpe and Rolleston Village Farmlands
- 6.2.4 (Policy: Conserve and Create).
- Trent Washlands Policy Zone TW PZ 32: Kelham Hills River Meadowlands

2. Site and its Immediate Context <250m

(application site and landscape of immediate adjoining areas)

- 6.2.5 The site and immediate area is within:
- Trent Washlands Policy Zone TW PZ 11: Cromwell, North and South Muskham, Kelham Averham, Staythorpe and Rolleston Village Farmlands
 - Most of the immediate adjoining area is also within **TW PZ 11** and there is small area to the north west of the site within the **Trent Washlands Policy Zone TW PZ 32: Kelham Hills River Meadowlands**.

Susceptibility of the Wider Study Area –

Trent Washlands: Village Farmlands (TW PZ 11)

- 6.2.6 The application site lies entirely within the TW PZ 11: (Cromwell, North and South Muskham, Kelham Averham, Staythorpe and Rolleston) Village Farmlands Character Area containing arable farmland which surrounds the site and extends both to the north (South Muskham) and south (Staythorpe) as well as the immediate west of the site. This LCA covers the main areas to which the solar farm could potentially exert most influence over, given it is part of the same tract of land. Field structure has been enlarged by the historic removal of hedgerow boundaries enabling larger intensively farmed areas to be established. The remaining medium to large scale enlarged fields are bounded by hedgerows in varying states but overall most are managed to a low level which allows for some open views over the area. There are also some smaller enclosures and pastures generally set close to the minor roads crossing the area and adjacent to the neighbouring Kelham Hills plantation woodland. Tree cover is otherwise intermittent inclusive of hedgerow trees and small copses.

- 6.2.7 Due to the relative scale of the proposed solar farm and BESS, spanning several adjoining arable fields (2 large fields directly west of Kelham and two smaller enclosures north of Averham) of the arable farm, the landscape pattern would be interrupted, but the nature of the development (up to 2.0m high solar arrays) would largely restrict the effects to ground level and the arrays would not form skyline features over the wider landscape character area, given there is little topographical variation across the site and adjoining fields. Whilst the legibility of the existing field pattern would be changed given some internal boundaries would be occluded by the solar layout, the existing landscape structure would be largely unchanged. All hedgerow boundaries are to remain and from outside the site this change would be much less perceptible. The solar development is also reversible upon decommissioning of the site with no wide scale effects on landform occurring.
- 6.2.8 The nearest settlement is the nucleated village of Kelham to the east. Whilst the village and its conservation area are in close proximity to the site, it is afforded a high degree of screening due to the wooded settings of Kelham Hall and Kelham Country House which occupy land to the south of the village centre and A617 (Main Road). The historic settlement and parkland landscape that encloses it do create a valued sense of place but one that is degraded as one moves beyond its edges by intensive arable farming and transport routes and National Grid Infrastructure (powerlines and power station further to the south). There are some detached properties lining Broadgate Lane, the gardens of which are located in closer proximity to the northern site boundary which will be accessed separately to ascertain the level of landscape and visual effects that will be experienced by a small number of residents.

Trent Washlands: Kelham Hills River Meadowlands (TW PZ 32)

- 6.2.9 The study area also includes the adjoining LCA Kelham Hills River Meadowlands which lies to the northwest of the site. This neighbouring LCA is inclusive of the wooded plantation 'Kelham Hills' and small scale pastures to the immediate north west of the site. This is a smaller distinct LCA that forms a break in character from the expanse of arable farmland that is typical of the wider landscape surrounding the site. The woodland block seen in the backdrop of local views an effective screen to arable land to the immediate north west and further north when combined with field boundary hedgerows.
- 6.2.10 The wider area does not contain any other solar farms although there is a BESS scheme under consideration to the south west of the site. .

Summary

- 6.2.11 When considering the indicators of susceptibility to change, the local landscape character and the scale of development, it is concluded that the village farmlands LCA takes precedence over the neighbouring Kelham Hills given it covers a much wider area inclusive of the entire site and most of the adjoining area which would have more potential to be affected by the nature of the proposed development. The woodland block and pastures of Kelham Hills is a smaller distinct area which will be unchanged by the proposals. It is considered wider landscape character would have Medium susceptibility to change to this development of a solar farm and BESS in this particular location which accords with the general 'Moderate' scoring for its characteristics, sensitivities and condition in the District LCA (Sherwood and Newark).

Susceptibility of the Site and its Immediate Context (<250m)

- 6.2.12 At a site level the proposed scheme is set within the existing enlarged arable field structure. The site boundaries follow the existing field structure bound by mature hedgerows with occasional hedgerow trees which generally form good levels of enclosure. In places the hedgerow boundaries are gappy and contain openings some of which are to allow for passage between the two larger fields. There are also some breaks within the roadside hedge (A617) between the two villages at the south east corner of the site. This allows for some internal long views across the site.
- 6.2.13 The change in landcover is considered to be mainly focussed to the site and adjacent fields. As discussed at the landscape character area level, the scheme is considered to have limited effects upon; landform, settlement character and pattern, and field boundaries. The perception of rural isolation and tranquillity across the site will be affected, a change from typical rural enclosed arable fields to fields

hosting solar arrays. This will lead to a feeling of more enclosure by development but as the proposals are of a low overall height, effects are limited outside of the site boundary. The visual scenic quality of the site is also affected which will be most strongly experienced by users of the single public right of way (track) which bisects the site on a northeast to south west alignment and is also the proposed main access into the site, roughly perpendicular to Broadgate Lane. The wider extents of the site of a typical 'commonplace' landscape will be less affected given the lack of public access in particular on the east side of the site which is in closer proximity to the settlements of Kelham and Averham.

- 6.2.14 At a site level, considering the indicators of susceptibility to change, the site landscape character and the scale of development, it is concluded that the site area has a Medium susceptibility to change to the development of a solar farm in this particular location. Some characteristics e.g. landcover are vulnerable to the proposal, but in general the landscape could accommodate the development without an overly significant change in the character.

Landscape Value of the Wider Study Area – Trent Washlands: Village Farmlands (TW PZ 11)

- 6.2.15 The majority of wider character area remains in agricultural use with most areas little changed in recent times. The Newark and Sherwood LCA assessed the condition of the landscape to be 'Moderate'. "The landscape has been fragmented in places by transport routes. There are some detracting features which include the National Grid power station to the south of Averham, pylons, the railway line and busy roads. There is some commercial development, not always in keeping with a rural landscape. Overall the area is visually coherent." The area's rural character is relatively well maintained, with a winding rural road network and dispersed small village settlements connected by local footpaths with some smaller pastures which are characteristic of the Trent Washlands. However, the "historic time depth has been degraded by intensive arable farming, transport routes and mineral extraction." Nevertheless, the villages of Kelham and Averham are designated conservation areas. Overall the sense of place was assessed by the LCA as 'Moderate'.
- 6.2.16 The LCA description does not provide an overall landscape value classification, but key features of the local landscape, e.g. hedgerows, settlement pattern, recreational routes will be largely unaffected, although the perceptual aspects of the site change, this will not greatly affect the wider LCA.
- 6.2.17 The LCA does not lie within or adjacent to a designated landscape although will offer some locally important landscape characteristics or scenic interest and value. The LCA provides some public amenity value by way of, access, biodiversity, and the opportunity for quiet enjoyment (relative tranquillity).

Trent Washlands: Kelham Hills River Meadowlands (TW PZ 32)

- 6.2.18 The smaller adjoining character area to the northwest of the site is distinct from the more open larger scale fields of those hosting the site. The small scale pastures set around Kelham Hills wood which border the site at the northwest corner have an intact field structure with good evidence of time depth and so are assessed by the Newark and Sherwood LCA as in 'Good' Condition. This area is also assessed as being of High Sensitivity given the more intimate scale with tall species rich hedgerows with no notable further detractors save for the powerline that skirts the northwest corner of the site on route to Staythorpe power station.
- 6.2.19 With regard to the methodology and the baseline landscape value assessment, and through consideration of the prescribed susceptibility to change indicators; the value of the combined landscape LCA's within the wider study area is considered to be Medium.

Landscape Designations

- 6.2.20 The value of all other landscape designations within the 2.5km study area (e.g. Country Park) and level of effect upon them is considered separately.

Landscape Value of the Application Site

- 6.2.21 The value of the landscape receptor, fields in arable agricultural use, is considered with reference to the methodology and the landscape value conclusions from the baseline chapter. The site is of Medium importance for rarity at a local scale with some redeeming features (mature hedgerows forming

enclosure, hedge banks with ditches, and small internal woodland copse) but with room for improvement (infilling of hedgerows and where appropriate the reinstatement of vegetative boundaries lost to arable expansion such as at the south west corner adjacent to the proposed BESS compound). The site does not lie within or adjacent to a designated landscape and overall its features are not overly important or distinctive as they are commonplace landscape characteristics seen across the wider landscape and region. The north western area of the site offers public amenity value by way of the single public right of way which follows the existing access track that heads west from Broadgate Lane which is also part of a permissive circular route. Whilst this will affect the scenic value of this part of the site this route will be physically unaffected by the proposed solar farm with a suitable standoff provided along the route as it passes through the site.

- 6.2.22 With regard to the methodology and the baseline landscape value assessment, the value of the landscape at the site level overall, is considered to be Medium.

Overall Sensitivity of the Wider Study Area

- 6.2.23 Considering the susceptibility to change of the wider landscape character areas which is overall Medium and landscape value indicators which produce an overall value of Medium, the landscape sensitivity of the wider study area to the solar farm is concluded to be Medium. In accordance with the methodology, these are “landscape character, elements, and associated land uses which by nature of their character would be able to partly accommodate change of the type proposed”.

Overall Sensitivity of the Site and its immediate Context >250m

- 6.2.24 Considering the susceptibility to change of the site and its immediate context and landscape which is Medium and landscape value indicators which produce an overall value of Medium, the landscape sensitivity of the site and its immediate context to the solar farm is concluded to be Medium. In accordance with the methodology, these are “landscape character, elements, and associated land uses which by nature of their character would be able to accommodate change of the type proposed that are non-designated with few features of value through use or perception”.
- 6.2.25 The arable fields have no features that could not be replaced and contains landscape elements with a medium level of susceptibility to change. The most sensitive element remains the public right of way passing through the site which bisects the two larger field enclosures which will remain physically unaffected. Mitigation and management measures proposed would additionally over time enhance the landscape structure of the area and aid the integration of the development.

6.3 MAGNITUDE OF LANDSCAPE EFFECTS

- 6.3.1 Landscape effects arising as a result of the proposed development are considered with reference to the criteria established in the methodology including scale, geographical extent, duration and reversibility of effect. The type of effect considered includes:
1. The potential operational effects on the landscape fabric within the site (direct effect);
 2. The potential operational effects on the host landscape character area (direct effect) including the consideration of any effects within designated areas; and
 3. The potential operational effects on the wider landscape character areas within the study area (indirect effects), including consideration of any effects within designated areas (if appropriate).
- 6.3.2 It is acknowledged that there is an overlap between perception of change to landscape character and visual amenity; landscape character is derived from the combination and pattern of landscape elements in the view. The effects of a development on landscape character arise from its relationship to these combinations and patterns.

Scale of Effect

- 6.3.3 Consideration is given to the scale of the change in the landscape that is experienced as a result of each effect and can include both the loss and addition of new features. The operational solar farm will result in direct effects upon the landscape fabric of the site.

Scale- Site and Its Immediate Context

- 6.3.4 The solar farm site area extends to c.95 hectares set within relatively flat arable fields. The fenced solar array area will cover 58.8ha of the total site area, but within this the majority of the area managed as tussock grassland between the arrays and meadow grassland outside the internal fence.
- 6.3.5 As discussed within the mitigation section outside of the solar deployment area the site is to be managed for biodiversity benefit. The aesthetic and perceptual aspects of the landscape would be negatively affected, by the development, but focussed to the site area only.
- 6.3.6 Considering the characteristics of the site and its immediate context and the proposed development, 2m high solar panels (arrays), the scale of effect is limited to the site, through the direct loss of arable farmland, and for the most part experienced in the immediately adjoining areas only. The scale of effect is considered to be Medium. The site will experience a change of use from arable farmland to solar panels with grassland but set within the context of an established and maintained perimeter landscape structure.

Scale- Wider Study Area

- 6.3.7 Outside of the site and immediately adjoining areas of the host LCA it is considered that the key characteristics of the Trent Washlands: Village Farmlands (TW PZ 11) LCA area would be subject to a Minor level of change which largely relates to the visual changes perceived rather than any substantial change to landscape pattern or structure by the proposed solar farm development. The scale of effect is considered to be Low.

Geographical Extent

- 6.3.8 The geographical extent of effects is influenced by the landscape setting and established features around the site, the scale of the proposed development (up to 2m high panels), the site and localised topography.

Geographical Extent- Site and Its Immediate Context

- 6.3.9 The site area is generally enclosed by vegetation, excluding some breaks in hedgerows, which are sparsest in the southern field; although it is proposed to add additional hedgerow planting in order to extensively screen ground level views from the immediate setting surrounding the site, as detailed in the mitigation section. It is evident the solar farm will cover over a large proportion of the site, which is a major addition, but the changes are mainly to landscape cover and pattern that is largely restricted to the site and only a few adjoining fields. However, mitigation planting will reduce the geographical extent over time as proposed boundary planting matures and existing hedgerows are allowed to grow 3m+ reducing the level of influence within the immediate setting around the site. The nearby settlements of Kelham and Averham are already afforded high levels of screening from woodland bounding both the site and road corridor that links the two (A617), which limits the geographical extent of the development.
- 6.3.10 The site and immediately adjoining areas form a large tract of land with the development covering over a large proportion of the available landform, this is countered by the fact it still remains a relatively small section of the host LCA. So, the geographical extent of effect is considered to be High at a site level but affecting a localised area.

Geographical Extent- Wider Study Area

- 6.3.11 Generally when considering the scale of the development and boundary features in an area with little topographical variation the extents over which the landscape effects would be felt are restricted to the site level and the immediately adjoining areas only. Effects would not extend over the wider area of the host landscape character area, adjoining character types or the wider extents of the study area. Given the large footprint of the proposals they may be perceived as prominent in the local vicinity but not substantially so beyond the immediate setting. The geographical extent of effect is therefore considered to reduce to a Low level for the wider study area.

Duration and Reversibility of the Landscape Effects

- 6.3.12 The solar farm and BESS permission will extend to 40 years, owing to this length of time the application is considered a permanent application in the assessment of landscape effects. It is though acknowledged that after this time the solar farm and BESS will be decommissioned and removed. The duration is considered long term, and permanent although ultimately reversible. The structures and crushed gravel access tracks can be removed and the fields reverted back to the current use of arable, but within a setting of an enhanced landscape structure as the perimeter planting will remain. The localised landscape effects would reduce over time. A High level of effect is concluded when considering the duration and reversibility of landscape effects at a site and wider LCA level.

Overall Magnitude of Landscape Effects - Site and Its Immediate Context

- 6.3.13 Magnitude is considered with regard to the methodology and the; scale, geographical extent, and duration and reversibility of landscape effects. The magnitude of change arising from the proposed solar farm development is considered to be Medium at a site level. In accordance with the methodology this is; “ Partial loss or moderate alteration to one or more key landscape elements/features/characteristics of the baseline and or introduction of elements that may be prominent but not necessarily substantially uncharacteristic with the attributes of the receiving landscape but which could co-characterise parts of the landscape.”
- 6.3.14 The magnitude of change largely arises from partial coverage with solar panels in place of arable crops which equates to a substantial alteration of that particular element of the landscape. This is countered by the fact that the landscape structure of the site comprised of the other defining characteristics mainly boundary landscape features (hedgerow and tree cover) will overall not be subject to an overall loss with mitigation to provide a net gain overall.

Overall Magnitude of Landscape Effects - Wider Study Area

- 6.3.15 This reduces to a Low level of effect when considering the entirety of the host character area Trent Washlands: Village Farmlands (TW PZ 11) and Kelham Hills (TW PZ 32) an area of woodland and meadows that will be little affected by the nature of the proposals . In accordance with the methodology this is; “Minor loss or alteration to one or more key landscape elements of the baseline and may not lead to a characterising or co-characterising effect of the wider landscape”.

6.4 OVERALL LEVEL OF LANDSCAPE EFFECTS OF THE SOLAR FARM UPON SITE AND ITS IMMEDIATE CONTEXT

- 6.4.1 The level of landscape effect is determined by consideration of the landscape sensitivity and the magnitude of landscape effect. With reference to the conclusions, a Medium landscape sensitivity and a Medium magnitude of change and in accordance with the methodology, the Kelham Solar Farm is considered to result in a Moderate level of landscape effect overall, this is a ‘not substantial’ effect. The scheme would affect an area of landscape character of Medium/Moderate value / susceptibility to change, but limited to effects within the local context, diminishing the sense of place locally for users of the PROW crossing the north western area of the site (and users of the permissive path).

6.5 OVERALL LEVEL OF LANDSCAPE EFFECTS OF THE SOLAR FARM UPON - WIDER STUDY AREA

- 6.5.1 With reference to the conclusions, a Medium landscape sensitivity and a Low magnitude of change and in accordance with the methodology, the Kelham Solar Farm is considered to result in a Minor level of landscape effect on the wider study area overall, this is a ‘Not Substantial’ effect.

6.6 ASSESSMENT OF PREDICTED EFFECTS ON LANDSCAPE RECEPTORS

Landscape Designations within 2.5km

- 6.6.1 As mentioned within the baseline section of this report (Refer to Paras 4.61-4.63) there are no specific landscape designations within the study area that would require separate assessment from the assessment of effects on surrounding landscape character.

- 6.6.2 The settings of Kelham Hall and Kelham Country House within Kelham Conservation Area whilst locally and regionally important and valued they are not designated for landscape reasons and due to high levels of screening have limited relationship to the site. Further assessment on the setting of these assets is provided by the Desk-based Heritage Assessment to be submitted with the Planning Application.

Construction Phase Effects

- 6.6.3 The construction phase is anticipated to take around 6 to 12 months. During this phase, the site's landscape will be modified to prepare the ground for the solar array installation which will lead to a change in character to the arable fields within the site and increased activity in the locality by way of machinery and construction vehicle movements which will include:
- Laying of the proposed gravel surfacing for the vehicular access tracks through the site.
 - Construction machinery travelling to and from the site to the point of access on A617;
 - Laying of the proposed gravel surfacing within the BESS and site substation compounds;
 - Siting and setting up of the electrical infrastructure and security fencing around the solar deployment areas.
- 6.6.4 The construction phase effects will be focussed to the site and immediately adjoining areas only, a high magnitude of landscape effect in the short term overall considering the method of construction, local setting and scale of development with increased levels of disturbance and vehicle movements and site compounds.
- 6.6.5 All construction works will be carried out in accordance with best practice procedures to minimise potential effects on landscape character. Appropriate methods will be adopted to protect existing trees and hedgerows in accordance with guidance contained within BS 5837:2012.

6.7 CUMULATIVE LANDSCAPE ASSESSMENT

- 6.7.1 With reference to Table 1 Cumulative sites and the cumulative visual assessment at section 8.5 of this report the sites under consideration for cumulative landscape effects are the 2 solar developments Sites C and D at Knapthorpe (c.2.7km and 2.8km to the north west) and the BESS scheme Site B at Staythorpe, 400m to the west. Site A is scoped out of this cumulative assessment as it was refused planning permission in July 2023.
- 6.7.2 The Proposal Site and Site B BESS scheme are located in the same Landscape Character Area (LCA) Trent Washlands: Village Farmlands (TW PZ 11) whilst the 2 solar schemes are located in the adjacent LCA Mid Nottinghamshire Village Farmlands (MN PZ30).
- 6.7.3 In the landscape assessment of the proposal site it was established the development would primarily affect the landcover characteristic of the site and adjoining fields only with the main change experienced being the covering over of existing arable farmland with solar arrays. This would have a characterising effect on landscape pattern but the landform and landscape structure (intactness of field boundaries) would go largely unaffected. Therefore, it was determined that the overriding features and characteristics of the landscape would be maintained and that the sense of scale of the existing site would still be legible given the existing structure (hedgerow boundaries and woodland blocks) would be retained and would also be added to by way of further mitigation planting to lessen the effects identified.
- 6.7.4 Due to the degree of separation from the proposal site, the setting of which would remain distinct from the 2 proposed solar schemes to the north west it is not anticipated the developments would give rise to any additional cumulative landscape effects over the level of effects identified in the landscape assessment which were considered to reduce to a Low magnitude for the surrounding landscape resulting in a Minor level of landscape effects within the host LCA (TW PZ 11). The ZTV with barriers (Drawing HC 1002 02 03 R0) also established the sites would have no intervisibility with the site and its immediate context.
- 6.7.5 Cumulative Site B, the BESS scheme located to the southwest of the Kelham development also has very limited theoretical intervisibility as established by the visual assessment of receptors to the south of the proposal site in and around Averham (Refer to Section 8.5). The Negligible visibility established

between the two sites and the fact the site is separated by the A617 limits the degree to which the two are functionally linked. Also, due to the low level nature of the BESS development in relation to the proposal site is not considered that it would give rise to sufficient additional change so as to constitute landscape effects over and above the level identified in the landscape assessment.

- 6.7.6 The addition of the proposed development at Site B within a small part of the LCA, would represent a relatively localised extent of the wider LCA. The magnitude of cumulative landscape change to the Trent Washlands: Village Farmlands (TW PZ 11) LCA is considered to remain at the same level as for the development of the site in isolation which equates to a Medium magnitude of change. Taking account of the Medium sensitivity of the LCA, the overall cumulative degree of landscape effect is judged to be Moderate for years 1 and 10. The integration of both developments within the southern half of the LCA would be assisted by the proposed mitigation schemes once implemented and fully established.

7. VISUAL ASSESSMENT – BASELINE DESCRIPTION

7.1 VISUAL ASSESSMENT- BASELINE

Key Visual Receptors

- 7.1.1 The key visual receptors within the study area will consist of (people at home) settlements, heritage attractions (where views are an important component), users of public rights of way (national trails, cycle ways and footpaths), and users of recreational facilities and transportation networks. The landscape baseline confirmed there are no Registered Parks and Gardens or Country Parks and no other type of designated landscape of note.

Zone of Theoretical Visibility (ZTV)

- 7.1.2 Land that may potentially be visually connected with the proposed development is usually identified and mapped at the outset (of a full landscape and visual assessment) in accordance with paragraph 6.6 of GLVIA3. Zone of Theoretical Visibility (ZTV) mapping is produced to determine the area over which the proposed development could theoretically be seen. ZTV maps are generated by computer from a Digital Terrain Model (DTM) representing the bare ground topography overlaid on a map base without areas of screening vegetation and built form.
- 7.1.3 To illustrate the visibility a ZTV is provided which utilises 16 evenly distributed calculation points to represent the layout (deployment area) for the maximum 2m high solar array tables.
- 7.1.4 ZTV mapping has been produced to determine the areas over which the proposed development, 2m high solar arrays could theoretically be seen. The analysis uses map data (taken from Ordnance Survey Vector Map District and includes the addition of the 'Building' layer, modelled at a height of 8m above ground level, and the 'Woodland' layer, modelled at a height of 12m above ground level. The addition of these visual barriers over the bare earth topographic model provides a more realistic indication of the potential visibility of the development within the local landscape setting. It is noted however that there are still likely to be other visual barriers not marked including single and small tree groups, hedgerows and new development. Visibility levels are further refined through the site survey and consideration of visibility from the identified receptors; settlements, public rights of way, landscape receptors and the viewpoint assessment. Visibility mapping is presented on 1:25,000 scale OS base mapping (Refer to **Drawing HC1002 02 03 Zone Of Theoretical Visibility with Barriers**).

Geographical Extent

- 7.1.5 The geographical extent of effects is influenced by the landscape setting and established features around the site, the scale of the proposed development (up to 2.0m high solar arrays), the site ground levels (c. 12-16m aod) and localised topography which exhibits little variation in this case.
- 7.1.6 The ZTV illustrates visibility focussed to the agricultural landscape inclusive of the site and areas to the immediate north, west and southwest of the site. It is considered visibility from the village of Kelham would be limited to views from residences lining Broadgate Lane to the north, with the core of the village screened in its entirety to the north east of the site. It is unlikely that any visibility would extend beyond the road corridor and frontage of these properties with the ZTV showing only limited theoretical visibility beyond the lane.
- 7.1.7 Visibility of the site is restricted by the relatively flat nature of the local landscape both within the site and moving westwards away from the neighbouring village settlements of Kelham and Averham with hedgerow field boundaries preventing ground level views in beyond the immediate context of fields lying adjacent to the site and road corridors (A617) to the and then the built form on the fringes of the settlement to the east. The main areas where there are views into the site are the adjacent fields to the immediate east, south and west of the site; although this varies and in many situations is reduced according to the degree of screening provided by gently undulating topography and/or hedgerow field boundaries bounding the site and nearby fields. In most cases views into the site at ground level are screened from outside of the site with views mainly continuing over boundary hedgerows.
- 7.1.8 Views from the footpath (Ref: NT Kelham FP4) bisecting the northern and central fields western side will be the most extensive of all publicly accessible areas. This public right of way will be reviewed further in the viewpoint assessment.
- 7.1.9 Views from the near road corridor to the east are intermittent and partly screened by the

forementioned features in the intervening fields.

- 7.1.10 Although the development may be perceptible from further to the west and to the south the effects are judged to be localised, can be mitigated over time, and limited to a small geographical area. It is not expected that the site would be discernible to the casual viewer from most publicly accessible locations that are to the west of Kelham Hills woodland, east of Kelham village or south of Staythorpe Lane, Averham (as it heads south towards the village). A Low level of effect is concluded when considering the geographical extent of the solar farm and BESS development.

Settlements

- 7.1.11 Settlements are considered to have a high sensitivity to visual change as there is the potential for large numbers of receptors (people) to be concentrated in these areas. It should be noted that many individual dwellings and dwellings within settlements, even when close to other proposed developments, may have 'no' or 'limited visibility' of the proposed development. For each individual property close to the development site, the exact degree of visibility will depend on the orientation of the property, the orientation of the windows in the property, and the degree of screening provided by localised landform, trees, hedgerows and surrounding built features. The main settlements that lie within the study area have been assessed.
- 7.1.12 The study area radius (up to 2.5km) is largely of a rural character (rural fringe) interspersed with individual farms, nucleated villages and the western fringes of Newark-on-Trent.
- 7.1.13 Residential receptors within 500m of the site are only assessed in detail due to the scale of the development (max. up to 2m high panel arrays) and the local surrounding and intervening vegetation, therefore, the likelihood of the panels being sufficiently discernible from residential receptors over 500m from the site is very limited. This distance threshold covers over most of the adjacent villages of Kelham to the north west and Averham to the south of the site.
- 7.1.14 Beyond the residential receptor threshold of 500m theoretical visibility does not extend as far as the western edge of the Newark Conurbation (c.2.5km+) due to topographic and woodland screening.
- 7.1.15 Theoretical visibility is shown to extend further over the arable and pasture farming areas to the north, south and west, containing a number of individual farmsteads and small clusters of detached properties. However, due to the separation distances and presence of intermediate woodland blocks, hedgerows and field boundary vegetation it is considered that views would be subject to a high degree of screening and not subject to substantial visual effects.
- 7.1.16 The residential receptors / settlements groups considered in detail within the 2.5km study area are listed (distances quoted to the closest area of the solar farm refer to Drawing HC1002 02 07 R0 Residential Receptors):

Residential receptors within 500m:

- R1 Broadgate Lane Group 1 (3 no. bungalows to the west of site access on the north side of the lane), c.25m north;
- R2 'Colerne' Broadgate Lane, c.25m north;
- R3 Broadgate Lane Group 2 (6 no. detached properties to the east of the site access on north side of the lane);
- R4 Orchard Cottages, Broadgate Lane (3 no. cottages to south side of the lane) c.10m to closest point of site boundary (c70m from the solar deployment);
- R5 Brickyard Cottages (Viewpoint 6), Broadgate Lane, c.285m Northwest;
- R6 'The Rutlands' (5 no. detached properties) c. 205m east of the site boundary, accessed from Main Road, Kelham;
- R7 Kelham House Country Manor Hotel, c.140m east of the site boundary;
- R8 Kelham Hall, A617 Kelham c.625m to the east of the site boundary;
- R9 Rectory Farm Staythorpe, c230m to the southeast of the site boundary;
- R10 Manor Farm and School Farm Group, Staythorpe, c80m to the south of the site boundary;
- R11 The Close, Averham Group 1 (north side of road adjacent to A617);
- R12 The Close, Averham Group 2 (southside of the road);

- R13 The Close, Group 3 (Wood View and Maidstone Cottage).

7.1.17 The ZTV with visual barriers added (**Drawing HC1002 02 03**) confirms that a number of properties would have no visibility to the proposed solar development which includes most of the properties within the village cores of Kelham and Averham. These properties will therefore not be considered in the assessment of visual effects section. Views are screened by a combination of topography, vegetation and built form.

Transportation and Public Access Network Recreational Routes

7.1.18 There is a limited network of footpaths and bridleways within the 2.5 km study area, the assessment will focus on the higher sensitivity regional / national routes in the study area, the public right of way bisecting the northern and central field enclosures to the west side of the site (Ref: NT Kelham FP4) and those local public rights of way that pass within 500m of the site boundary. The main long distant routes and local public rights of way are illustrated on **Drawing HC1002 02 02 Landscape Planning Constraints**.

Regional Routes:

7.1.19 Trent Valley Way, a long distance footpath route passes the site alongside the A617 (Main Road before it bears east through Kelham and then on to Newark-on-Trent (including footpaths Kelham FP5 and FP14). At the closest point of the route the path follows the east side of the A617 c.20m from the site boundary. Analysis of the ZTV with visual barriers, site survey and study of aerial photography indicates that there would be potential visibility to the solar development for a c.600m section of the route alongside the A617 broadly opposite the southern field's east side. The remainder of the route to the north of Oak Plantation, which surrounds nearby Kelham House Country Hotel is well screened by woodland and topography which falls away eastwards towards the River Trent beyond Kelham village.

Local PROW within 500m:

- Footpath Ref: NT Kelham FP4 bisecting the northern and central field at the northern end of the site between Broadgate Lane (north). The route then branched west towards Kelham Hills.
 - Footpath Ref: NT Kelham FP6 to the immediate west of the site (which then links to FP 4 at the western site boundary). The route continues south west towards Flash Farm (A617).
- 7.1.20 Analysis of the ZTV with visual barriers confirms that there is the potential for theoretical visibility to the site from the above PROW. Other public rights of way within the study area will be screened by a combination of topography and intermediate vegetation within the site, adjoining fields and road corridors.

Vehicular Routes

- 7.1.21 There are two minor roads with theoretical visibility into the site which border the application boundary. These are Broadgate Lane which abuts the northern boundary heading west from the village of Kelham and Staythorpe Road to the immediate south which links the village of Averham to the A617.
- 7.1.22 The A617 passes the site to the east of the site boundary and links Kelham to the north and Averham to the south of the site. The route heads east through the centre of Kelham village towards Newark-on-Trent. The route passes the southern site boundary heading westwards past the village of Averham.
- 7.1.23 Due to the site's location and screening of routes by woodland and roadside hedgerows, gently varying topography and the nucleated form of the village settlements there is limited potential visibility from the minor road network within Kelham and Averham.
- 7.1.24 There are no other public highways with the potential for visibility to the Solar Farm and BESS due to the separation distances and aforementioned screening.

Selected Recreational / Cultural Destinations

7.1.25 Within the 2.5km study area, there is only one recreational and cultural destination that has the potential for visibility towards the site area; although the ZTV with barriers demonstrates that due to substantial woodland screening views of the development are screened.

- Kelham Hall- Events Venue ‘The Renaissance at Kelham Hall’ private stately home with 42 acres of gardens.

7.1.26 All other destinations have no intervisibility with the site.

7.2 VIEWPOINT ASSESSMENT- BASELINE VIEWS

7.2.1 11 viewpoints have been selected on the basis that they provide views (and / or illustrate the limited visibility) of the proposed Kelham Solar Farm & BESS from sensitive receptors and representative locations within the study area. These viewpoints are all publicly accessible locations from existing visual receptors.

7.2.2 A full list of viewpoints, including a description of location, justification for selection and approximate distance from the site area is included in Table 5. The locations of the viewpoints are illustrated on **Drawing HC1002 02 08 Viewpoint Locations**. The viewpoints selected represent some of the most visible locations to the Solar Farm and BESS whilst still illustrating the restricted visibility within the local landscape when the scale of development is considered (maximum 2m high panel arrays).

7.2.3 Baseline views are considered with reference to:

- The type and relative numbers of people (visual receptors) likely to be affected with consideration of the activities they are involved in.
- The location, nature and characteristics of the chosen viewpoints (representative, specific and illustrative).
- The nature, direction, composition and characteristics of the existing views experienced at the viewpoints.
- The visual characteristics and elements of the existing views e.g. nature and extent of skyline, aspects of visual scale and proportion, landform or other elements that may interrupt or otherwise influence views.

Table 5: Viewpoint Locations

Viewpoint reference	Name	Location		Comments	Receptors
VP1	Broadgate Lane, Site entrance and PROW 190/4/2	Distance from site	15m	View from site entrance, along PROW corridor through the deployment zone and closest road and residential receptors to the NE.	Residents, PROW users, Road users
		Direction from site	Northeast		
		NGR	E. 476964 N. 355952		
		Height	14m aod		

VP1 Baseline Views:

Theoretical visibility indicated on the ZTV. The location is opposite the proposed site entrance on Broadgate Lane adjacent to detached properties lining the northside of the Lane (west of Kelham village). Visibility into the site at ground level is fairly restricted by the roadside hedgerow forming the northern site boundary which will limit the proportion of the site shown to be theoretically visible. Views into the northern end of the site are though available looking directly along the existing access track through the field gate or obliquely back towards Kelham where the hedge is cut low or in small gaps as shown in the baseline view.

When looking through the gap in the roadside hedge views extend across the large central arable field to the woodland forming the western site boundary. Detached properties to the north of Kelham House are partially visible through the treeline, beyond the pond (set down from the view) and its raised embankment in the north east corner.

Views generally continue over the site towards trees lining the A617 road corridor as it turns west past Averham. In the far distance the locations of nearby villages Averham, Staythorpe and further west Upton are

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Viewpoint reference	Name	Location		Comments	Receptors
just made out, defined by distant tree groupings within the settlements and the intermittent hedgerow trees of surrounding arable fields of a similar nature to the site. The OHT corridor which cuts across the north west corner of the site and south to the A617 is the main detractor within the view. The road corridor is also just visible in the far distance where it heads east to Staythorpe Power Station between the villages of Averham and Staythorpe.					
VP2	Broadgate Lane	Distance from site	c.15m	View along NE boundary from Broadgate Lane	Residents
		Direction from site	North East		(High Sensitivity)
		NGR	E. 477107 , N. 355816		Road users
		Height	c.16m aod		(Medium Sensitivity)
VP2 Baseline Views: Theoretical visibility indicated on the ZTV. The location provides oblique views over the low cut northern boundary hedge into the northern end of the central field. Views continue to the hedgerow field boundary (and ditch) lining the access track and ProW Footpath NT Kelham FP4 which cuts across the north west corner of the site. Partial views are available into the north west field in the available gap where the hedge stops c.100m short of Broadgate Lane, at the northern end of the track close to the proposed point of access. The OHT pylons are a prominent detractor in the skyline, seen rising above background woodland of Kelham Hills, which occupies an elevated embankment west of the site.					
VP3	Western Site Boundary, PROW Ref: NT/Kelham FP4	Distance from site	0m	View from PROW as it passes through solar deployment area. Proposed site access point.	PROW users
		Direction from site	West		
		NGR	E. 476427 , N. 355671		
		Height	c.13m aod		
VP3 Baseline Views: Theoretical visibility indicated on the ZTV. The viewpoint is located towards the end of the access track at the gap in the hedgerow between the north west enclosure and the larger central field. The view looks northeast over the northern field with the hedgerow lining the access track enclosing views which extend back towards Broadgate Lane. The hedge splits the ground level views with the 180 degree views available in either direction (here looking north with similar views available if one turns south to look over the central field). A few of the detached properties on Broadgate Lane are partially visible through garden boundary vegetation with the white rendered houses being generally more prominent than redbrick ones. Boundary vegetation along the lane provides a varying degree of enclosure with some properties afforded more screening than others. Moving west looking towards the northern tip of the site, trees and hedgerow vegetation lining the north west field provide almost continuous enclosure which largely prevents views any further north. The line of OHT's crossing the northern site field are prominent detractors in the view.					
	A617, Main Street	Distance from site	c.30m	View from main road through the	

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Viewpoint reference	Name	Location		Comments	Receptors
VP4		Direction from site	South east	study area, upon open boundary / proposed southern site access	Road users (Medium Sensitivity)
		NGR	E. 476748 , N. 354891		
		Height	c.14m aod		
VP4 Baseline Views:					
Theoretical visibility indicated on the ZTV. The viewpoint location is on the A617 at the southern end of the site looking west over the southern field enclosure. The view is centred on Cottage Plantation seen on the western boundary of the site, a small woodland block set between the southern field and larger central field. The viewpoint location is at a break in the roadside hedgerow which provides an open view over the southern site field set below Cottage Plantation with uninterrupted views over adjacent pastures to the west of the site towards Micklebarrow Hill. The OHT line which skirts the north west corner of the site is seen continuing behind woodland across adjacent fields to the west with the pylons breaking the skyline being the main detractors in the otherwise pleasant views.					
VP5	Kelham Conservation Area, Main Street, A617	Distance from site	c.200m	View towards site from the Kelham Conservation Area, close to the entrance to Kelham Hall	Road users (Medium Sensitivity) People within the CA (High Sensitivity)
		Direction from site	North East		
		NGR	E. 477020 , N. 355358		
		Height	c.16m aod		
VP5 Baseline Views:					
Theoretical visibility indicated on the ZTV. The viewpoint is further to the north on the A617 adjacent to the grounds of Kelham House Country Hotel (which is set in well enclosed grounds to the immediate east of the site). The view looks southwest over the smaller enclosure adjacent to the road corridor towards the southern site field and beyond to the nearby village of Averham seen in the background. The linear woodland known as 'Oak Plantation' the end of which is seen here, runs along the eastern flank of the site and provides a dividing screen between Kelham House and the two northern fields. The two opposing plantations (Cottage Plantation seen on the west side in the background) create a degree of enclosure between the two halves of the site, the northern half screened from view by Oak Plantation. The view continues over a low hedge bounding the southern site field, which is to host the BESS compound, in the direction of Upton village (SW) in the far distance.					
VP6	Brickyard Cottages, Broadgate Lane	Distance from site	c.280m	View towards the site from the north west (closest lane)	Road users, (Medium Sensitivity) Isolated Residential. (High Sensitivity)
		Direction from site	North		
		NGR	E. 476680 , N. 356428		
		Height	c.22m		
VP6 Baseline Views:					
Theoretical visibility indicated on the ZTV. The view looks south towards the site from a position further to the north on Broadgate Lane close to some isolated cottages to the north west of Kelham. Vegetation alongside					

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Viewpoint reference	Name	Location		Comments	Receptors
the foreground field by the road provides some screening but with glimpsed views through to the northern site field. The hedge lining the west side of the northern field is seen continuing beyond the field of view to the right of the large pylon which marks the northern tip of the site set behind it. Partial views into the northern field are possible which continue over to the access track and public right of way (Footpath Ref: NT Kelham FP4) set in front of the hedgerow which divides it from the larger central field enclosure. Slight glimpsed views to the eastern side of the site's central field alongside Oak Plantation are possible, although this part of the site would be very hard to discern for the casual viewer against a prominent woodland backdrop. The far side of the site is likely to be barely noticeable in spring/summer when trees are in full leaf, given the amount of intervening vegetation and due to the fact, this is a winter time view. Views continue over the site to the south east towards Staythorpe Power Station with its twin towers forming prominent silhouetted vertical features in the wooded backdrop (inclusive of tree groups in and around the neighbouring village of Averham). The large pylons of the OHT line that extends from the foreground of the view in a southerly direction towards Averham and on to Staythorpe seen here cutting across the north west corner of the site are also prominent vertical detractors.					
VP7	Averham, The Close	Distance from site	c.250m	View towards the site from the edge of the Averham Conservation Area, properties aligned to the north.	Residential (High Sensitivity) Road users (Medium Sensitivity)
		Direction from site	South		
		NGR	E. 476213 , N. 354685		
		Height	c.14m aod		
VP7 Baseline Views: Theoretical visibility indicated on the ZTV. The viewpoint is located directly to the south of the site just off the A617, at the northern extent of Averham looking northwards. The tall hedgerow bounding the main road between Averham and Kelham (A617) provides a high degree of screening for vehicles from the road corridor as well as properties on the south side of the road. Although, in this winter time view glimpses into the pastures to the south of the site are possible. However, views do not extend into the site itself as the southern boundary hedgerow just glimpsed beyond, screens ground level views in. Distant woodland (Kelham Hills and Oak plantation) bordering either side of the site forms the backdrop to the view.					
VP8	Ollerton Road	Distance from site	c.440m	View from the minor road to the north of Kelham village.	Road users, (Medium Sensitivity)
		Direction from site	North East		
		NGR	E. 477286 , N. 356227		
		Height	c.14m aod		
VP8 Baseline Views: Theoretical visibility indicated on the ZTV. The viewpoint is located on Ollerton Road to the north of Kelham just before the road branches at Kelham Lane. The view looks south west towards the site over hedge lined fields to the north of the village in the direction of Broadgate Lane. The view takes in woodland at the junction of Trent Lane where Ollerton Lane heads into the village, to the north west of the site. To the west of this the rear elevations of properties on Broadgate Lane are visible where breaks in garden boundary vegetation allow for partial views to some of these detached residences. There are no views into the site itself (at the similar elevation of 14-16m AOD) due to the intervening field boundary hedgerows as well as vegetation within plots					

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Viewpoint reference	Name	Location		Comments	Receptors
of Broadgate Lane properties.					
VP9	Kelham Bridge, A617 and Kelham Conservation Area.	Distance from site	c.490m	View from main road corridor and Conservation Area at key entrance to the village.	Public footpath users (High Sensitivity)
		Direction from site	East		
		NGR	E. 477624 , N. 355659		
		Height	c.12m aod		
VP9 Baseline Views:					
Theoretical visibility indicated on the ZTV. The viewpoint located on the road bridge (A617) over the River Trent at the east side of the village looks west towards the site. There are no views available towards the site due the riverside vegetation and wooded setting of Kelham village (itself largely screened from view).					
VP10	Layby A617 South West	Distance from site	c.850m	View from PROW to the south west of the study area, close to main road (although screened by tall hedges)	Public footpath users (High Sensitivity)
		Direction from site	South west		
		NGR	E. 475284 , N. 355410		
		Height	c.16m aod		
VP10 Baseline Views:					
Theoretical visibility indicated on the ZTV. The mid-range view is located in the layby (A617 east bound) to the south west of the site. The view towards the site is channelled between the nearby woodland copse within the pastures bordering the road corridor and the hedgerow which forms the mid-section of the western site boundary seen behind the pylons. The large pylons of the OHT line which skirts the site form a prominent vertical corridor and detract from what would be a pleasant view back towards the settlement (Kelham) with properties glimpsed on Broadgate Lane within the treed backdrop. Ground level views into the site are screened by the hedgerow that returns parallel to the view forming part of the western site boundary.					
VP11	Micklebarrow Hill PROW Ref: NT/Upton FP6	Distance from site	c.1.7km	View from locally elevated PROW on edge of study area	Public footpath users (High Sensitivity)
		Direction from site	East		
		NGR	E. 474483 , N. 355141		
		Height	c.37m aod		
VP11 Baseline Views:					
Theoretical visibility indicated on the ZTV. The viewpoint is located on the public footpath (Ref: NT Upton FP6) at the base of Micklebarrow Hill to the west of the site. The distant view towards the site looks over fields predominantly laid out to pasture west of Averham (seen to the extent of the view). There are partial views of the two larger central and northern site fields seen as a very thin ground plane set in front of the prominent woodland backdrop. The southern end of the site is just able to be discerned moving south from Oak Plantation, the woodland block forming the eastern site boundary. A large proportion of the site's ground					

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Viewpoint reference	Name	Location	Comments	Receptors
			plane is screened by field boundary hedgerows and smaller woodland elements in the intervening fields. The large British Sugar factory is a prominent feature seen in the background of the view where visible chimney stacks and tall buildings break the skyline set behind the woodland backdrop. Views continue to the far east where the northern end of Newark-on-Trent is just discernible beyond the neighbouring village of Averham looking to south of the site, marked by the church spire seen breaking the skyline.	



8. VISUAL ASSESSMENT – LEVEL OF EFFECTS

8.1 VIEWPOINT ASSESSMENT

- 8.1.1 The current views from each of the viewpoint locations are shown in the baseline photo plates for Viewpoints 1 – 11. For Viewpoints 1,2,3,4,5 and 11 following the baseline photograph, a photomontage has been produced to illustrate the visual changes resulting from the proposed Solar Farm and BESS. Detailed analysis of the viewpoints is made with reference to the current baseline views and photomontages where applicable. The analysis of the magnitude of change, and the predicted visual effect, are considered in the following tables.
- 8.1.2 During the construction phase, vehicles accessing the site and on the proposed internal access tracks will be visible but from most situations away from the site boundaries and internal PROW these movements will be difficult to discern. The construction phase will last 6 to 12 months and so views are short term and transient with only infrequent maintenance activity likely to occur on site once the construction phase is complete. Therefore, It is not anticipated construction effects would give rise to an increased level of visual effect for viewpoint receptors.
- 8.1.3 The following Viewpoints are assessed in Table 6 below:
- Viewpoint 1- Broadgate Lane, Site entrance and PROW Ref: NT/Kelham FP4
 - Viewpoint 2- Broadgate Lane
 - Viewpoint 3- Western Site Boundary, PROW Ref: NT/Kelham FP4
 - Viewpoint 4- A617, Main Street
 - Viewpoint 5- Kelham Conservation Area, Main Street, A617
 - Viewpoint 6- Brickyard Cottages, Broadgate Lane
 - Viewpoint 7- Averham, The Close
 - Viewpoint 8- Ollerton Road
 - Viewpoint 9- Kelham Bridge, A617 and Kelham Conservation Area
 - Viewpoint 10- Layby A617 eastbound
 - Viewpoint 11- Micklebarrow Hill, PROW Ref: NT/Upton FP6

Table 6: Viewpoint Assessment

Viewpoint 1- Broadgate Lane, Site entrance and PROW Ref: NT/Kelham FP4	
Visual receptor / susceptibility to change	Residents and PROW Users - High Road Users – Medium
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment and review of the photomontage view confirms there are views into the deployment's northern edge over the site boundary hedgerow which varies in height along the Lane. Close to the site access gate the hedge is managed to a low level <1.5m with a small break at the gate and to one side which allows for ground level views in. The proposed vegetated bund is clearly visible to the east side of the northern deployment area and will effectively screen the vast majority of the arrays with just the tops of the panels within the first few rows seen over its crest. The western side of the deployment (north west enclosure to the north of the public right of way) is screened by the taller hedgerow and trees which line the site boundary. There are glimpsed views along the access track to the solar deployment through the deer fencing and one of the inverters is also seen further along the track.

	The relatively flat landform of the site and its immediate context and the low level nature of the solar deployment (arrays of c.2m in height) means the entire deployment sits below the wooded skyline. Therefore, new elements in the view inclusive of glimpsed views to solar arrays, opaque deer fencing and two of the inverter cabinets when seen together do not appear overly prominent against the darker backdrop. The few visible panels are subservient to the existing OHT's which are the much more prominent and taller visual detractors. The bund will be clearly noticeable and an important new element in the view which will partially obstruct through views across the site and result in a partial change in landform and resultant site character. However, views to woodland just beyond the site boundaries and distant treelines will remain unobstructed. Therefore, the main aim of the bund, to mitigate views of the deployment is achieved. Views from first floor level of adjacent properties may be possible over the bund towards the deployment; Although gardens contain coniferous evergreen hedging and mature trees and properties are well set back from the roadside which will result in glimpsed views into the site at most. Garden vegetation is likely to prevent views beyond the boundary hedgerow and/or bund from ground floor windows and curtilage. Low-Medium at Year 1 Reducing to overall Low at Year 10, following the establishment of native shrub/scrub planting on the bund which will screen most of the arrays either side of the access track.
Geographical extent	Effects would be experienced at the site, immediate setting at this close-range position. Low
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation in the long term.
Magnitude of visual effect Year 1	Partial visibility with only a minor change to the existing view and baseline situation. The character and composition will be altered at the northern end of the site but the nature of the changes will not be substantial. Residents- Low-Medium Road Users- Low
LEVEL OF VISUAL EFFECT Year 1	Residents (directly opposite the access point only) – Moderate Road Users- Minor NOT SUBSTANTIAL visual effects.
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Reducing to Low , following the establishment of bund planting along the northern deployment boundary which will then prevent former clipped views visible arrays seen at the outset.
LEVEL OF VISUAL EFFECT Year 10	Minor views subject to small deterioration but not dominating 'NOT SUBSTANTIAL' visual effects and reversible in the long term.
Viewpoint 2 – Broadgate Lane	
Visual receptor / susceptibility to change	Residents - High Road Users – Medium

Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium-High
Sensitivity of visual receptor	High
Scale of visual effect	In this oblique view the proposed landscaped bund entirely screens views looking southwest to the far side of the site. Only a few arrays are glimpsed close to the point of access seen obliquely between the shorter bund alongside the track. The vast majority of the deployment is out of view set behind the bund with no views over the eastern side of the site. As is the case along the rest of Broadgate Lane views to woodland beyond the site boundaries and distant treelines still remain, although the bund does terminate views at the left extent of the view looking southwest which obstructs views over the large central field landform. OHT's remain the most prominent visual detractors seen above the crest of the bund which reduces the overall sense of foreshortening which would otherwise occur due to some distant vegetation now being obstructed. This also has limited effect on the overall character and composition as changes are seen at ground level only and enough of the original background elements remain such as the large woodland block defining the western side of the site. The bund is the most important new element in the view which will partially obstruct through views into the site and result in a partial change in landform and resultant site character. Views to woodland at the site boundaries and distant treelines will largely remain unobstructed. Therefore, the main aim to mitigate views of the deployment is achieved. Views from first floor level of adjacent properties may be possible over the bund towards the deployment, although gardens contain coniferous evergreen hedging and mature trees and properties are well set back from the roadside which will result in glimpsed views into the site at most. Garden vegetation is likely to prevent views beyond the boundary hedgerow and/or bund. Low-at Year 1 Reducing slightly but remaining at Low at Year 10, following the establishment of native shrub/scrub planting on the bund which will effectively screen the arrays either side of the access route.
Geographical extent	Effects would be experienced at the site and immediate setting at this close-range position. Low
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation in the long term.
Magnitude of visual effect Year 1	Partial obstruction of ground level views into the site. Bund prominent but grass seeding and planting will soften it once established. Small number of arrays glimpsed at oblique angle. Low
LEVEL OF VISUAL EFFECT Year 1	Minor a NOT SUBSTANTIAL visual effect
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Remaining at Low , following the establishment of bund planting along the northern deployment boundary which will then prevent former clipped views to some of the visible arrays seen at the outset.

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LEVEL OF VISUAL EFFECT Year 10	Minor views subject to small deterioration but not dominating A NOT SUBSTANTIAL visual effect and reversible in the long term.
Viewpoint 3- Western Site Boundary, PRoW Ref: NT Kelham FP4	
Visual receptor / susceptibility to change	Public Footpath Users- High
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	High
Scale of visual effect	The photomontage illustrates the 180 degree view over the northern compartment of the development. In reality the location provides 360 degree views that are split into two by the hedgerow alongside the access track, one looking northwest over the northern deployment and the second looking southeast over the central deployment. The views are internal ones from the public right of way between the northern and central deployment fields to the south of the access track. The location, set well inside of the development area provides the most extensive views over the solar arrays of all the assessed locations. This close range position from the track results in the arrays and post and wire deer fencing extending across the full field of view and so the development will have a defining influence on the view. Whilst the rows of arrays will completely obstruct views across the site's ground cover and create a foreshortening effect by bringing the background closer, the majority of woodland at Kelham hills embankment and the line of pylons crossing the northwest corner remain visible, which helps to retain the sense of scale previously seen. The overall character and composition of the view whilst not completely changed is thus greatly affected as expected when viewed so close up to the deployment. High at Year 1 Remaining High at Year 10
Geographical extent	Effects would be experienced within the site itself from the public right of way as it passes between the deployment High
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation
Magnitude of visual effect Year 1	Considerable change, where the proposals are seen prominently at very close range and therefore have a defining influence on the view. Looking north the OHT's and taller woodland still define the overall view. High
LEVEL OF VISUAL EFFECT Year 1	Major - proposals would cause an extensive deterioration to the view becoming the dominant features from a high sensitivity receptor. A SUBSTANTIAL visual effect
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Remaining High at Year 10 as the mitigation's primary function is to screen views from external receptors.
LEVEL OF VISUAL EFFECT Year 10	Major, A 'SUBSTANTIAL' visual effect. Effects are reversible in the long term on decommissioning of the scheme.

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Viewpoint 4- A617, Main Street	
Visual receptor / susceptibility to change	Road Users Medium
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	Medium
Scale of visual effect	On site assessment and review of the photomontage view confirms there are clear views over the southern deployment field and so a wide expanse of prominent arrays are visible covering over ground level. Views also extend northwest over the central deployment. The view is taken just inside the site boundary hedgerow but is representative of views from the footway with low gappy hedgerow at this point of the route providing very limited screening for pedestrians, more so to passing road users who will not be overly focused on views over the site. The solar deployment would equate to a large visual change where the proposals would be an important new element but not totally defining the view. Whilst there would be a loss of views across the site's landform, surrounding woodland defining the sites' boundaries and views of the internal copse will remain unobstructed. This vegetation will remain the most important features and will still define overall character albeit with a partially changed composition. The addition of the proposed mitigation hedgerow alongside the track in front of the solar fencing will soften the harsh edge of the deployment and for road users this will substantially screen views into the site at ground level over time once fully established c.7 years+.
Geographical extent	Located at footway between Averham and Kelham alongside the site's eastern boundary. Medium
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation in the long term.
Magnitude of visual effect Year 1	A substantial change to ground cover but not completely defining the overall character and composition of the view. Views to distant woodland backdrop and pylons remain. Woodland still defines the overall setting. Medium-High
LEVEL OF VISUAL EFFECT Year 1	Some deterioration of the view for medium sensitivity receptors but located away from settlement edges so that views are experienced by only a few people. Road users will be less affected due to the low level nature of development. Surrounding woodland is still the most prominent element defining overall character and composition of views. Moderate-Major A 'SUBSTANTIAL' visual effect at ground level that will reduce when the proposed hedgerow planting is fully established.
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Hedgerow will soften edge of deployment and create an effective screen for motorists. The route isn't widely used by pedestrians given it is a narrow footway between settlements. Medium
LEVEL OF VISUAL EFFECT Year 10	Following the proposed hedgerow's establishment and infilling of gaps in the existing hedgerow at the roadside the solar deployment will remain noticeable when looked over by passing pedestrians but will be experienced by a low number of people and will not dominate the defining wooded setting. Moderate 'NOT SUBSTANTIAL' visual effects and reversible in the long term

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Viewpoint 5- Kelham Conservation Area, Main Street, A617	
Visual receptor / susceptibility to change	Road Users Medium
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	Medium
Scale of visual effect	On site assessment and review of the photomontage view confirms there are views towards the southern deployment area and BESS. The BESS compound is seen partially clipped by the woodland block on the far side of the site. Due to the unchanging topography the view is restricted to the eastern edges of the rows of arrays which screens a large proportion of the deployment behind. The lighter backside of the arrays appear less prominent than the front side as seen in viewpoint 4. Whilst, the taller BESS enclosure is clearly noticeable, seen breaking the skyline, at this distance it does not dominate the view. Distant views to woodland and settlement (Averham) remain relatively unobstructed with arrays set down which causes an interruption in ground cover only and partial change in character and composition of the site itself. The OHT's traversing the view still draw the eye to the skyline and remain the more dominant detractors in the view. Medium at Year 1 Reducing to overall Low at Year 10, following the addition of scrub and tree planting across the southern end of the nearest field which adjoins the western boundary woodland. This mitigation planting will eventually provide a dense screen with arrays set behind so that only glimpsed views remain and in time may be limited to winter views. when vegetation is not in leaf.
Geographical extent	Effects would be experienced at the site and immediate setting from this close range position that offers a break in the roadside hedgerow. Medium
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation in the long term.
Magnitude of visual effect Year 1	The solar deployment would be noticeable from a short section of road where breaks in vegetation allow for views through to the site's southern field. Road Users- Low-Medium
LEVEL OF VISUAL EFFECT Year 1	Road Users- Minor-Moderate A NOT SUBSTANTIAL visual effect
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Reducing to Negligible for road users , following the establishment of scrub and tree planting at the nearest field boundary set in front of visible arrays.
LEVEL OF VISUAL EFFECT Year 10	Road Users- Neutral NOT SUBSTANTIAL visual effects and reversible in the long term.
Viewpoint 6- Brickyard Cottages, Broadgate Lane	
Visual receptor / susceptibility to change	Road Users – Medium
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	High- residents at home

Scale of visual effect	On site assessment confirmed the partial views thorough to the northern site field as seen in the existing photographic view. The arrays in the northern field would be clearly noticeable behind the hedgerow field boundary set just behind the nearest pylon. The low level nature of the development (c.2m) and intervening hedgerows would largely restrict views to arrays within the northern field of the site especially if existing hedge lines were allowed to grow taller to c.3m+. The ZTV shows arrays would theoretically be glimpsed further into the site but these would be very small features from this distance and in the complex views containing several bands of intervening vegetation inclusive of mature trees within the hedgerows would be much less noticeable. The solar arrays would be well contained within the existing field structure and cause no interruption or obstruction to distant views through the site where The tall OHT's would remain the most dominant element of the view which is also inclusive of other distant detractors such as Staythorpe power station and its chimney stack. Views are likely to be restricted to glimpsed views from the property and partial views from the road environs but road users will be less focused on views over the landscape reducing effects to negligible and for most drivers the development may well not be discerned. Low for road users
Geographical extent	Effects would be experienced at the site and very small area of the immediate setting. Low
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation in the long term.
Magnitude of visual effect Year 1	The solar deployment would be partially visible and limited to the first few rows of arrays within the northern field set closest to the view Partial obstruction to ground cover within site fields only. Low road users
LEVEL OF VISUAL EFFECT Year 1	The arrays would be noticeable but given their diminishing size from this distance they would not be dominant and constitute only a minor discordant feature in the wide panoramic view containing more prominent vertical detractors. Road users- Negligible 'NOT SUBSTANTIAL' visual effects
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Proposals remain partially visible but will result in a very limited change to the overall character and composition of the view. Low for road users.
LEVEL OF VISUAL EFFECT Year 10	Road users- Negligible 'NOT SUBSTANTIAL' visual effects and reversible in the long term.
Viewpoint 7- Averham, The Close	
Visual receptor / susceptibility to change	Residents - High Road Users-Medium
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium

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Sensitivity of visual receptor	High
Scale of visual effect	On site assessment and the existing photographic view confirms that that there would be at most glimpsed views into the southern field of the site. As noted in the baseline view description, the tall roadside hedgerow provides a high degree of screening for properties on the opposite side of the road looking directly north towards the site. The taller BESS compound may also be glimpsed but would likely be much less noticeable as it is set further into the site. The visual changes would be barely noticeable for road users as they would not be looking directly into the site and their views would be focussed on the road corridor. Glimpsed views of the arrays are likely to be mainly for residents at the western end of the road with more open views out, looking north towards the site from first floor windows. The deployment would cause a barely noticeable deterioration to the view with the hedge and first few rows of arrays at the southern end of the field preventing distant views across the site. Negligible- Low
Geographical extent	Effects would be experienced at the site and immediate setting for a few residents at the northern extent of the settlement. Low
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation in the long term.
Magnitude of visual effect Year 1	Residents Negligible-Low Road Users- Negligible
LEVEL OF VISUAL EFFECT Year 1	Residents- Negligible - Road Users- Negligible A NOT SUBSTANTIAL visual effect
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Remains the same as no mitigation to the southern boundary deemed to be required. Residents Negligible-Low Road Users- Negligible
LEVEL OF VISUAL EFFECT Year 10	Residents Negligible-Minor Road Users- Negligible 'NOT SUBSTANTIAL' visual effects and reversible in the long term.
Viewpoint 8- Ollerton Road	
Visual receptor / susceptibility to change	Road Users Medium
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	Medium
Scale of visual effect	On site assessment and review of the existing baseline photographic view confirms there are no views towards the site. Although the ZTV shows theoretical visibility the model was not inclusive of intervening hedgerow field boundaries or garden vegetation which screen the sites location from the north of the Kelham village. None

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Geographical extent	N/A
Duration and reversibility of effect	N/A
Magnitude of visual effect Year 1	None
LEVEL OF VISUAL EFFECT Year 1	Neutral A NOT SUBSTANTIAL visual effect
Magnitude of visual effect at Year 10 following establishment of mitigation planting	None
LEVEL OF VISUAL EFFECT Year 10	Neutral 'NOT SUBSTANTIAL' visual effects
Viewpoint 9- Kelham Bridge, A617 and Kelham Conservation Area	
Visual receptor / susceptibility to change	Road Users Medium
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	Medium
Scale of visual effect	On site assessment and review of the existing baseline photographic view confirms there are no views towards the site. None
Geographical extent	N/A
Duration and reversibility of effect	N/A
Magnitude of visual effect Year 1	None
LEVEL OF VISUAL EFFECT Year 1	Neutral A NOT SUBSTANTIAL visual effect
Magnitude of visual effect at Year 10 following establishment of mitigation planting	None
LEVEL OF VISUAL EFFECT Year 10	Neutral 'NOT SUBSTANTIAL' visual effects
Viewpoint 10- Layby westbound A617, South West	
Visual receptor / susceptibility to change	Road users Medium
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	Medium
Scale of visual effect	On site assessment and existing photomontage view confirms potential for partial through views in available gaps in the field boundary hedgerows bordering the west side of the site. The taller midground vegetation screens views to the southern half of the site where the BESS is located

	and hedgerows along the western boundary screen most potential for views to the northern field. So potential views to arrays are generally limited to the central area of the site. The view which is a distant one c.850m away would mean where glimpsed, the arrays would be very small scale features within the complex wide panoramic view. As in other views the line of pylons skirting the west side of the site dominates and so glimpses of the development would appear subservient to these much taller elements in the landscape. As is the case in other views around the edge of the deployment the western edge of the rows of arrays will screen views through to the far eastern side of the site once installed, so that much less of the scheme is able to be viewed (albeit partial glimpsed views) than is shown on the ZTV. It is also the case road users main focus will be on the road corridor and not on views over the landscape and so sensitivity is already at a lower level than publicly accessible locations around the site and local area. Negligible
Geographical extent	Effects would be experienced for short section of layby and road in available gaps of the roadside hedgerows as one passes to the southwest of the site. Low
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation in the long term.
Magnitude of visual effect Year 1	Negligible
LEVEL OF VISUAL EFFECT Year 1	Negligible- 'NOT SUBSTANTIAL' visual effects
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Negligible change in the view once hedgerows are gapped up and site wide mitigation scheme is established, which equates to No change as views will return to appear much as the existing situation, given any change will be hard to discern against the established vegetative backdrop.
LEVEL OF VISUAL EFFECT Year 10	Neutral 'NOT SUBSTANTIAL' visual effects and reversible in the long term.
Viewpoint 11- Micklebarrow Hill, PROW Ref: NT/Upton FP6	
Visual receptor / susceptibility to change	Public Footpath Users- High
Value of view	No recognition in planning terms (landscape and heritage) or literature. Not a defined scenic route. Medium
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment and review of the photomontage confirms there are views to the southern end of the development which extends beyond the woodland bounding the western side of the site and copse to the north of the BESS compound.

	The majority of the solar deployment including the large central field and northern is well screened by intervening vegetation with several hedgerows and some mature trees (including some prominent evergreens surrounding a field pond to the west of the site). As a result it is only the southern field's development which is partially visible. The internal BESS firewalls are the most prominent element seen in the view at the western boundary of the southern field. In this distant view c1.7km from the site these are small scale features and sit well below the woodland backdrop which remains unobstructed. The complex panoramic view contains a number of detractors such that overall the scheme would be less noticeable to the casual viewer with taller pylons dominating and lorries often drawing attention on the A roads to the south and east. There are also clear views to Averham's red tiled buildings which draw the eye away from the site Low
Geographical extent	Effects would be experienced for short section of the route heading up Micklebarrow Hill after which topography and vegetation screen views for most of the route. Low
Duration and reversibility of effect	High . Classified as permanent development due to lifespan over 40 years but reversible back to existing situation in the long term.
Magnitude of visual effect Year 1	Low
LEVEL OF VISUAL EFFECT Year 1	Minor for footpath users A NOT SUBSTANTIAL visual effect
Magnitude of visual effect at Year 10 following establishment of mitigation planting	Once the hedgerow and tree planting establishes views to the BESS and arrays through the boundary fencing will be filtered and ,much less noticeable. Painting the BESS Firewall and cabinets a recessive brown colour 'Vandyke brown' has helped these structures to blend in with the woodland backdrop. Negligible-Low
LEVEL OF VISUAL EFFECT Year 10	Negligible-Minor 'NOT SUBSTANTIAL' visual effects and reversible in the long term.

- 8.1.4 In summary, the viewpoint assessment through the production of photomontages has demonstrated that the largest visual changes as a result of the solar development with a **High** magnitude of change would occur at Viewpoint 3 on the footpath that passes through the deployment area, following the access track from Broadgate Lane between the northern and central fields. Given the proximity to the deployment these substantial visual effects from inside of the site are deemed unavoidable.
- 8.1.5 Conversely footpaths outside of the site are generally afforded a high degree of screening from vegetation at the site boundary, surrounding woodland and hedgerow field boundaries, such that only partial views of the development are possible as evidenced at Viewpoint 10 from Micklebarrow Hill from an elevated position to the west.
- 8.1.6 Similarly a **Medium-High** magnitude of change would be experienced at Viewpoint 4 by road users passing the site to the immediate east on the A617. These **'Substantial'** visual effects would be at Year 1 prior to any mitigation planting taking place. Following the maturation of the hedgerow planting at the eastern boundary of the southern deployment field these effects would reduce to **Medium** magnitude and a **Moderate** level of effect which are **'Not Substantial'** visual effects. For vehicles on the A617 (Refer to viewpoint 4 and 5) mitigation planting would substantially reduce visual effects as low level views into the site would be screened in their entirety so that only glimpsed views (likely restricted to winter views) would remain after planting is fully established.

- 8.1.7 Direct views in to the deployment at the point of access into the site from Broadgate Lane (Viewpoint 1) would experience a **Moderate** level of effect at Year 1 which would reduce to **Minor** when hedgerows have been gapped up and the planting on the bund either side of the access track has matured which will restrict oblique views to the arrays, resulting in **'Not Substantial'** visual effects.
- 8.1.8 In the remaining viewpoints (no.s 6-11) effects are **'Not Substantial'** of no more than **Low** magnitude and **Minor** level of visual effects, with most views set away from the immediate context 8,9 and 10 subject to **Negligible** and **Neutral** effects.

8.2 ASSESSMENT OF PREDICTED VISUAL EFFECTS ON RESIDENTIAL RECEPTORS WITHIN 500m

- 8.2.1 The following residential receptors within the study area with theoretical visibility are considered (Refer to **Drawing HC1002 02 07 Residential Receptors**).

- R1 Broadgate Lane Group 1 (1 detached house and 2 no. bungalows to the west of site access on the north side of the lane), C.25m north;
- R2 'Colerne' Broadgate Lane, c.25m north;
- R3 Broadgate Lane Group 2 (6 no. detached properties to the east of the site access on north side of the lane);
- R4 Orchard Cottages, Broadgate Lane (3 no. cottages to south side of the lane) c.10m to closest point of site boundary (c70m from the solar deployment);
- R5 Brickyard Cottages (Viewpoint 6), Broadgate Lane, c.285m Northwest;
- R6 The Rutlands (5 no. detached properties) c. 205m east of the site boundary, accessed from Main Road, Kelham;
- R7 Kelham House Country Manor Hotel, Main Road, Kelham, c.140m east of the site boundary;
- R8 Kelham Hall, A617 Kelham c.625m to the east of the site boundary;
- R9 Rectory Farm Staythorpe, c230m to the southeast of the site boundary;
- R10 Manor Farm and School Farm Group, Staythorpe, c80m to the south of the site boundary;
- R11 The Close, Averham Group 1 (north side of road adjacent to A617)
- R12 The Close, Averham Group 2 (southside of the road)
- R13 The Close, Group 3 (Wood View and Maidstone Cottage)

- 8.2.2 The assessed visual effects in the following tables are at scheme opening prior to mitigation.

Table 7: Residential Receptors Visual Assessment

R1 Broadgate Lane Group 1, Kelham	
Distance from site (closest area of the site boundary)	c.25m north
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that ground floor views are likely to be screened by garden boundary vegetation and the roadside hedgerow forming the northern site boundary. There is likely to be oblique views from first floor level over the northern field from the detached property 'The Holt' at the western end of Broadgate Lane although these will be filtered by garden trees and arrays will be more noticeable in winter views. The bungalow with the Dorma window will get

	similar views whilst the bungalow without a first floor window will likely get no views. Low-Medium
Geographical extent	View from first floor windows of detached properties. Low
Duration and reversibility of effect	40 years- considered to be long term. Fully reversible upon decommissioning
Magnitude of visual effect Year 1	Low-Medium
LEVEL OF VISUAL EFFECT Year 1	Moderate A NOT SUBSTANTIAL visual effect
Magnitude of visual effect Year 10	The addition of the planted bund is likely to substantially screen the deployment so that only the tops of the first few rows are seen in clipped views as shown in the photomontage for Viewpoint 1 taken at the site access. These properties are expected to get much the same extent of view. Low
LEVEL OF VISUAL EFFECT Year 10	Minor A NOT SUBSTANTIAL visual effect

R2 'Colerne' Broadgate Lane, Kelham	
Distance from site (closest area of the site boundary)	c.25m north
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature. Views are likely to be valued by the residents and visitors to the residential lodge site.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that there is likely to be views from the detached property looking towards the site access opposite. The garden and roadside hedge will likely clip views from the ground floor, whilst 1 st floor level will provide views further into the northern field's deployment. Views will be similar to those assessed for viewpoint 1 at the site access which states: <i>Close to the site access gate the hedge is managed to a low level <1.5m with a small break at the gate and to one side which allows for ground level views in. The proposed vegetated bund is clearly visible to the east side of the northern deployment area and will effectively screen the vast majority of the arrays with just the tops of the panels within the first few rows seen over its crest.</i>

	The view from the first floor of the house would allow for direct views further into the site given the angle of view and the fact there are no trees within the front garden. Most other properties on Broadgate Lane whose oblique views are often well screened by mature front. garden vegetation will not get the same extent of view to the deployment. There are glimpsed views along the access track to the solar deployment through the deer fencing and one of the inverters is also seen further along the track. Medium
Geographical extent	View from first floor windows of detached property. Low
Duration and reversibility of effect	40 years- considered to be long term. Fully reversible upon decommissioning
Magnitude of visual effect Year 1	Medium
LEVEL OF VISUAL EFFECT Year 1	Moderate-Major A 'SUBSTANTIAL' visual effect, but from 1ST Floor windows (Ground floor views are partially screened)
Magnitude of visual effect Year 10	Low-Medium
LEVEL OF VISUAL EFFECT Year 10	The vegetated bund will screen more of the deployment and clip views of rows of arrays set further into the site which may have been more visible at Year 1 Moderate A 'NOT SUBSTANTIAL' visual effect, but from 1ST Floor windows (Ground floor views are partially screened)

R3 Broadgate Lane Group 2, Kelham	
Distance from site (closest area of the site boundary)	c.30-60m northeast
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that for the properties set to the east of the point of access on Broadgate Lane ground floor views would be largely screened by garden boundary vegetation (although the density of this varies with some of the larger detached properties almost entirely screened including the last but one to the east which has a tall conifer evergreen hedge which is tall enough to also screen 1 st floor views of the deployment). Other properties within the

	group will get partial and or glimpsed views of the deployment from 1st floor windows. The landscaped bund is expected to clip these views as demonstrated by the photomontage for viewpoint 1 so that much of the deployment is set behind the first rows of arrays seen behind the bund. Low-Medium
Geographical extent	Mainly view from first floor windows of detached properties. Low
Duration and reversibility of effect	40 years- considered to be long term. Fully reversible upon decommissioning
Magnitude of visual effect Year 1	Low-medium
LEVEL OF VISUAL EFFECT Year 1	Moderate at most visible A 'NOT SUBSTANTIAL' visual effect
Magnitude of visual effect Year 10	Effects reducing to low as planting on the landscape bunds to further screen views into the deployment Low
LEVEL OF VISUAL EFFECT Year 10	Minor at most visible A 'NOT SUBSTANTIAL' visual effect

R4 Orchard Cottages (3 no. cottages), Broadgate Lane, Kelham	
Distance from site (closest area of the site boundary)	c.10m north
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	Viewpoint 2 represents the effects that will likely occur for residents of the 3 cottages to the south side of the road which are the closest properties to the deployment within the northern field. The views from the ground floor are likely to be screened by garden hedgerows. From the first floor residents will get similar oblique views as those from the assessed viewpoint (2) (Refer to assessment commentary on VP 2 for further details). Whilst the bund will screen views of the deployment almost entirely the extra height from first floor windows will likely allow more rows of the arrays within the northern fields deployment to be seen although the overall distant views they will still clipped by the bund. The bund will therefore be the most important new element in the view which will partially obstruct through views into the site and result in a partial change in landform and resultant site character. Views to woodland at the site boundaries

	and distant treelines will largely remain unobstructed. Therefore, the main aim to mitigate views of the deployment is achieved. Low-Medium at Year 1
Geographical extent	Potential views into site from the side and rear elevations of properties. Low
Duration and reversibility of effect	40 years- considered to be long term. Fully reversible upon decommissioning
Magnitude of visual effect Year 1	Partial obstruction of ground level views into the site. Bund prominent but grass seeding and planting will soften it once established. Small number of arrays glimpsed at oblique angle. Low
LEVEL OF VISUAL EFFECT Year 1	Minor- Moderate A 'NOT SUBSTANTIAL' visual effect
Magnitude of visual effect Year 10	Remaining at Low, following the establishment of bund planting along the northern deployment boundary further screening of arrays will occur reducing the visible extent of the deployment seen from the properties. Bund remains the main change to the view but will be softened by planting. Low
LEVEL OF VISUAL EFFECT Year 10	Minor - views subject to small deterioration but not dominating A NOT SUBSTANTIAL visual effect and reversible in the long term.

R5 Brickyard Cottages, Broadgate Lane, c.285m northwest	
Distance from site (closest area of the site boundary)	c.285m northwest
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	Residents at home - High
Scale of visual effect	Viewpoint 6 represents the effects that will likely occur for residents of the cottages located to the north west of the site (c.285m away) which states: <i>The arrays in the northern field would be clearly noticeable behind the hedgerow field boundary set just behind the nearest pylon. The low level nature of the development (c.2m) and intervening hedgerows would largely restrict views to arrays within the northern field of the site especially if existing hedge lines were allowed to grow taller to c.3m+.</i> Views are likely to be restricted to glimpsed views from the properties' first floor windows only

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	Low for residents
Geographical extent	Effects would be experienced at the site and very small area of the immediate setting. Low
Duration and reversibility of effect	40 years- considered to be long term. Fully reversible upon decommissioning
Magnitude of visual effect Year 1	Low
LEVEL OF VISUAL EFFECT Year 1	Minor at worst (worst case and more likely for winter views) A 'NOT SUBSTANTIAL' visual effect
Magnitude of visual effect Year 10	Proposals remain partially visible and result in very limited change to the overall character and composition of the view. Low for residents
LEVEL OF VISUAL EFFECT Year 10	Minor - views subject to small deterioration but not dominating A 'NOT SUBSTANTIAL' visual effect and reversible in the long term.

R6 'The Rutlands' (5 no. detached properties) Main Road, Kelham	
Distance from site (closest area of the site boundary)	c.205m east
Susceptibility to change	Residents (property not accessible) so view considered from the roadside (A617) and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that the properties would not have views to the site as they are afforded high levels of screening from the woodland block bounding the east side of the site (which also screens the village centre of Kelham).
Geographical extent	No visibility – not applicable
Duration and reversibility of effect	No visibility – not applicable
Magnitude of visual effect	None
LEVEL OF VISUAL EFFECT	Neutral A NOT SUBSTANTIAL visual effect

R7 Kelham House Country Manor Hotel, Main Road, Kelham	
Distance from site (closest area of the site boundary)	c.70m east
Susceptibility to change	Visitors to the events venue (property not accessible but grounds visited to assess nature of the views). High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that the hotel would not have views to the site as it is afforded high levels of screening from the dense woodland bounding the east side of the site (which also screens the village centre of Kelham).
Geographical extent	No visibility – not applicable
Duration and reversibility of effect	No visibility – not applicable
Magnitude of visual effect	None
LEVEL OF VISUAL EFFECT	Neutral A NOT SUBSTANTIAL visual effect

R8 Kelham Hall, A617 Kelham c.625m to the east of the site boundary	
Distance from site (closest area of the site boundary)	c.625m east
Susceptibility to change	Visitors to the events venue (property not accessible but grounds visited to assess nature of the views). High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that the events venue and grounds would not have views to the site as it is afforded high levels of screening from the dense woodland bounding the east side of the site (which also screens the village centre of Kelham).
Geographical extent	No visibility – not applicable
Duration and reversibility of effect	No visibility – not applicable
Magnitude of visual effect	None
LEVEL OF VISUAL EFFECT	Neutral

	A NOT SUBSTANTIAL visual effect
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R9 Rectory Farm Staythorpe	
Distance from site (closest area of the site boundary)	c.230m southeast
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that there are unlikely to be views from the habitable ground floor of the farmhouse which is well set back from the A617 via a long track. There may at most be glimpsed views from first floor windows to the arrays which would be small scale features seen at this distance and the character and composition of the view would be subject to a low level of change. Low
Geographical extent	Effects would be experienced at the site and very small area of the immediate setting. Low
Duration and reversibility of effect	40 years- considered to be long term. Fully reversible upon decommissioning
Magnitude of visual effect Year 1	Negligible-Low
LEVEL OF VISUAL EFFECT Year 1	Negligible-Minor A 'NOT SUBSTANTIAL' visual effect
Magnitude of visual effect Year 10	Reducing to Negligible once hedgerow planting at the eastern side of the deployment has matured
LEVEL OF VISUAL EFFECT Year 10	Neutral 'NOT SUBSTANTIAL' visual effects

R10 Manor Farm and School Farm Group, Staythorpe	
Distance from site (closest area of the site boundary)	c.80m south
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that there are unlikely to be views from the farmhouse, given the tall dense hedgerow (3m+) set in front by the roadside. None
Geographical extent	No visibility – not applicable
Duration and reversibility of effect	No visibility – not applicable
Magnitude of visual effect	None
LEVEL OF VISUAL EFFECT	Neutral ‘NOT SUBSTANTIAL’ visual effects

R11 The Close, Averham Group 1 (north side of road adjacent to A617)	
Distance from site (closest area of the site boundary)	c.220m south
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that there are unlikely to be views of the solar deployment from the 4 detached properties on the north side of The Close adjacent to the A617. This is due to the combined screening of hedgerows at the southern site boundary (A617) and garden boundaries as well as tree planting at the roadside. None
Geographical extent	No visibility – not applicable
Duration and reversibility of effect	No visibility – not applicable
Magnitude of visual effect	None

LEVEL OF VISUAL EFFECT	Neutral ‘NOT SUBSTANTIAL’ visual effects
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R12 The Close, Averham Group 2 (southside of the road)	
Distance from site (closest area of the site boundary)	c.250m south
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that as is the case for Group 1 to the north side of the road there are unlikely to be views of the solar deployment from the 7 detached properties on the south side of The Close. This is due to the combined screening of hedgerows at the southern site boundary (A617) and garden boundaries as well as tree planting at the roadside. The last 2 properties at the western end of the road are more open to the main road (A617) and so are assessed separately below (R13).
Geographical extent	No visibility – not applicable
Duration and reversibility of effect	No visibility – not applicable
Magnitude of visual effect	None
LEVEL OF VISUAL EFFECT	Neutral ‘NOT SUBSTANTIAL’ visual effects

R13 The Close, Group 3 (Wood View and Maidstone Cottage)	
Distance from site (closest area of the site boundary)	c.250m south
Susceptibility to change	Residents (property not accessible) so view considered from the roadside and analysis of aerial photography. High
Value of view	No recognition of importance in local planning policy or published literature.
Sensitivity of visual receptor	High

Scale of visual effect	Viewpoint 7 assessed the situation for the last properties at the western end the Close which states: On site assessment and the existing photographic view confirms that that there would be at most glimpsed views into the southern field of the site. As noted in the baseline view description, the tall roadside hedgerow provides a high degree of screening for properties on the opposite side of the road looking directly north towards the site. The taller BESS compound may also be glimpsed but would likely be much less noticeable as it is set further into the site. <i>Glimpsed views of the arrays are likely to be mainly for residents looking north towards the site from first floor windows. The deployment would cause a barely noticeable deterioration to the view with the hedgerow and first few rows of arrays at the southern end of the field preventing distant views across the site.</i> Negligible- Low
Geographical extent	Effects would be experienced at the site and immediate setting for a few residents at the northern extent of the settlement. Low
Duration and reversibility of effect	40 years- considered to be long term. Fully reversible upon decommissioning
Magnitude of visual effect Year 1	Residents Negligible-Low (Restricted to winter views)
LEVEL OF VISUAL EFFECT	Negligible-Minor ‘NOT SUBSTANTIAL’ visual effects
Magnitude of visual effect Year 10	Residents Negligible-Low (Restricted to winter views)
LEVEL OF VISUAL EFFECT Year 10	Negligible-Minor ‘NOT SUBSTANTIAL’ visual effects

- 8.2.3 In summary there is only one residential receptor (detached property R2 ‘Colerne’, Broadgate Lane) which has the potential to be subject to substantial visual effects prior to any mitigation measures being implemented. The majority of the other properties assessed were found to at worst experience a minor magnitude of visual effect and one with a Moderate effect (R3 Group on Broadgate Lane) which are a ‘Not Substantial’ level of effects with some also neutral and subject to no change. Following the installation of the landscaped bund at the northern end of the site and mitigation planting, effects from the Residential receptor R2 which is directly opposite the point of access into the site on Broadgate Lane would reduce to be a Low-Medium and Moderate level of effect which are a ‘Not Substantial’ level of visual effects.

8.3 ASSESSMENT OF PREDICTED VISUAL EFFECTS UPON PUBLIC RIGHTS OF WAY AND TRANSPORTATION NETWORK WITHIN 500m

- 8.3.1 The following recreational and transportation routes within the study area with theoretical visibility are considered.

Table 8: Recreational Routes and Transportation Network Visual Assessment

Roads

Broadgate Lane	
Distance from site (closest area of the site boundary)	Beside northern boundary of the site
Susceptibility to change	Travellers upon road corridor; drivers are focused on the road and aware of surroundings and passenger focus is often over the landscape. Medium .
Value of view	Not a defined scenic route, Medium
Sensitivity of visual receptor	Road Users- Medium
Scale of visual effect	With reference to Viewpoints and Photomontages for Viewpoint locations 1 and 2 taken from Broadgate Lane, the level of visibility into the site varies along the Lane as it heads west out of Kelham. On leaving the village heading west as one approaches the eastern edge of the site at the location of Viewpoint 2 (Orchard Cottages, the closest properties to the deployment) there are oblique views into the site where the landscape bund will allow for only glimpsed views to a few rows of arrays. Looking further to the west over the boundary hedge (cut low at the time of assessment, representing a winter view) towards the point of access only a few arrays are glimpsed, seen obliquely between the shorter bund alongside the track. The vast majority of the deployment is out of view set behind the landscape bund with no views over to the eastern side of the site. Views to woodland beyond the site boundaries and distant treelines still remain, although the bund does terminate views looking southwest which then obstructs views over the larger central field's landform. OHT's remain the most prominent visual detractors seen above the crest of the bund which reduces the overall sense of foreshortening which would otherwise occur due to some distant vegetation now being obstructed. This also has limited effect on the overall character and composition as changes are seen at ground level only and enough of the original background elements remain such as the large woodland block defining the western side of the site. The bund is the most important new element in the view which will partially obstruct through views into the site and result in a partial change in landform and resultant site character. Views to woodland at the site boundaries and distant treelines will largely remain unobstructed. Therefore, the main aim to mitigate views of the deployment is achieved. Road Users- Low at Year 1
Geographical extent	The views are restricted to the close range over a relatively short section of road c.250m. Low
Duration and reversibility of effect	40 years/fully reversible
Magnitude of visual effect Year 1	Low-Medium for road users
LEVEL OF VISUAL EFFECT Year 1	Road users - Minor-Moderate 'NOT SUBSTANTIAL' visual effects

Magnitude of visual effect Year 10	Road users - Low 'NOT SUBSTANTIAL' visual effects
LEVEL OF VISUAL EFFECT Year 10	Once the bund planting has matured and new sections of hedgerow are installed adjacent to the site access and footpath corridor, effects will reduce as fewer arrays will be seen and views will be substantially filtered/screened Road users - Minor 'NOT SUBSTANTIAL' visual effects
Staythorpe Road	
Distance from site (closest area of the site boundary)	290m south
Susceptibility to change	Travellers upon road corridor; drivers are focused on the road and aware of surroundings and passenger focus is often over the landscape. Medium .
Value of view	Not a defined scenic route, Medium
Sensitivity of visual receptor	Road Users - Medium
Scale of visual effect	Although the ZTV shows up to 50% theoretical visibility towards the arrays from the edge of Averham it does not account for the hedgerow screening along the road corridor as the A617 turns a corner. As is the case from nearby viewpoints (VP7) and residential receptors there will be at most glimpsed views of any arrays which are likely to be restricted to winter views only. From the edge of the village viewers may well often be unaware of the solar farm until more oblique views are available from the A617. Negligible for road users
Geographical extent	Potential for glimpsed winter views to the arrays from a short section of road at junction with A617. Viewers main focus on road so will often not be discerned. Low
Duration and reversibility of effect	40 years/fully reversible
Magnitude of visual effect Year 1	Negligible for road users
LEVEL OF VISUAL EFFECT Year 1	Negligible for road users 'NOT SUBSTANTIAL' visual effects
Magnitude of visual effect Year 10	Remaining Negligible for road users
LEVEL OF VISUAL EFFECT Year 10	Negligible road users 'NOT SUBSTANTIAL' visual effects

A617 (Main Road)	
Distance from site (closest area of the site boundary)	Passes to south and east, adjacent to site boundary c.5m.
Susceptibility to change	Travellers upon road corridor; drivers are focused on the road and aware of surroundings and passenger focus is often over the landscape. Medium .
Value of view	Not a defined scenic route, Medium
Sensitivity of visual receptor	Road Users - Medium
Scale of visual effect	At the outset of the scheme (Year 1) views towards the site from the road corridor will vary and be largely dependent on the level of screening from the roadside hedgerows adjacent to the southern and eastern site boundaries. As previously mentioned, the southern end of the site is well screened by the tall existing hedgerow which forms a dense effective screen of the site, with only glimpses in to ground cover within the southern deployment field. As one heads north there are some breaks in the hedgerow and it is generally cut lower which allows for some more extensive views further into the site, more so for pedestrians walking past who would be more aware than vehicles at speed. This equates to partial visibility of the scheme (southern deployment field and small part of the central area. Road users - Low for the route as a whole with localised sections experiencing Medium effects (See Viewpoints 4 and 5)
Geographical extent	The solar deployment would be noticeable from a short section of road where breaks in vegetation allow for views through to the site's southern field. Low-Medium
Duration and reversibility of effect	40 years/fully reversible
Magnitude of visual effect Year 1	Road users- Low-Medium
LEVEL OF VISUAL EFFECT Year 1	Road Users - Moderate for 500m section of the route 'SUBSTANTIAL' visual effects
Magnitude of visual effect Year 10	After the mitigation hedgerow at the east side of the deployment matures and the existing boundary hedgerow alongside the road is gapped up the solar arrays will be substantially screened from the road corridor. For vehicles views will reduce to partial and glimpsed views of the southern field's deployment. Pedestrians will get partial views of the scheme. Road users - Low
LEVEL OF VISUAL EFFECT Year 10	Reducing to a Minor level of effects for road users 'NOT SUBSTANTIAL' visual effects.

Footpaths

(Refer to Drawing HC1002 02 02 Landscape Planning Constraints)

Footpath Ref: NT Kelham FP4	
Distance from site (closest area of the site boundary)	Bisects the northern and central field following existing track
Susceptibility to change	Users of the public right of way who will have a high awareness of landscape views. High .
Value of view	Not a defined scenic route, High
Sensitivity of visual receptor	High

Scale of visual effect	The views from the footpath crossing through the site's interior provides the most extensive views over the solar deployment as one would expect. This would be a substantial change in views across the site where the proposals would have a defining influence on the view. This would equate to a high magnitude of visual change. As is the case with many of the other views the changes are restricted to an obstruction in low level views. However from this location as the view is close upon the arrays the lower boundary vegetation (hedges and scrub) bottom edges of woodland and adjoining fields to the far west, and northern edges of the site are obstructed. The woodland is however only partially obstructed due to the low height of the arrays c.2m so that the taller woodland at Kelham hills on an elevated embankment that sits higher at 20-47m aod c.200m to the immediate west still forms the defining backdrop to the view. Therefore the visual changes do not lead to a complete change in character and composition of the view as the elements enclosing the site still remain the most important. The OHT's are also still viewed as the more prominent vertical detractors. Medium-High
Geographical extent	The footpath starts at the site access and follows the north side of the hedge to the western boundary where it joins FP6 (700m length, full extent of the path) Medium
Duration and reversibility of effect	40 years/fully reversible
Magnitude of visual effect	Medium-High
LEVEL OF VISUAL EFFECT	Moderate-Major 'SUBSTANTIAL' visual effects

Footpath Ref: NT Kelham FP6	
Distance from site (closest area of the site boundary)	Heads southwest from the western site boundary and links with FP 4
Susceptibility to change	Users of the public right of way who will have a high awareness of landscape views. High.
Value of view	Not a defined scenic route, High
Sensitivity of visual receptor	High
Scale of visual effect	The views from the footpath (which lies to the immediate south west) towards the site are generally well screened by the tall hedgerows which form the western site boundaries. The route is at similar levels to the site with little variation in topography (14-16m aod) so that the low level arrays are well screened at ground level. There may be glimpsed views in through any small gaps in vegetation on approaching the site but these may well be limited to winter views when vegetation is not in leaf. It is proposed to continue to manage the hedgerows to 3m+ such that the 2m high arrays will remain well screened for the lifetime of the project. Negligible-Low

Geographical extent	Short section of the route on approaching site c.150m Low
Duration and reversibility of effect	40 years/fully reversible
Magnitude of visual effect	Negligible-Low
LEVEL OF VISUAL EFFECT	Minor A 'NOT SUBSTANTIAL' visual effect

Regional Recreational Route- Trent Valley Way	
Distance from site (closest area of the site boundary)	5m from the eastern site boundary
Susceptibility to change	Users of the public right of way who will have a high awareness of landscape views. High.
Value of view	Not a defined scenic route, High
Sensitivity of visual receptor	High
Scale of visual effect	As the route follows the A617 on route to Kelham the effects will be as described for road us for the assessment of effects on the road corridor which states: <i>As one heads north there are some breaks in the hedgerow and it is generally cut lower which allows for some more extensive views further into the site, more so for pedestrians walking past who would be more aware than vehicles at speed. This equates to partial visibility of the scheme (southern deployment field and small part of the central area).</i> Pedestrians- Low Medium for the route as a whole with localised sections experiencing Medium effects (See Viewpoints 4 and 5) Medium at Year 1
Geographical extent	Users of the long distance walking route would experience effects for c.500m which is a very small part of the route adjacent to a main road. Low
Duration and reversibility of effect	40 years/fully reversible
Magnitude of visual effect Year 1	Medium
LEVEL OF VISUAL EFFECT Year 1	Moderate-Major for 500m section of c.6km route within study area 'SUBSTANTIAL' visual effects
Magnitude of visual effect Year 10	Low-Medium
LEVEL OF VISUAL EFFECT Year 10	Reducing to Moderate once mitigation hedgerow planting has fully established. 'NOT SUBSTANTIAL' visual effects

8.3.2 In summary No substantial visual effects are concluded for road users on any of the transport routes within the study area.

8.3.3 Road users will experience **Moderate-Major** effects at Year 1 when passing the site to the immediate

east on A617 for a 500m section of the route. These effects would reduce to at most **Moderate** once the mitigation hedgerow at the east side of the deployment matures which will substantially screen low level views into the site from the road corridor. The effects for passing vehicles would reduce more considerably for the whole route between Averham and Kelham and be of a **Low** magnitude and **Minor** level of visual effects.

- 8.3.4 On Broadgate Lane, road users' views into the solar deployment will be minimised as the landscape bund will substantially screen low level views across the site from the outset at scheme opening (Year 1). The level of effects experienced would be at most **Minor-Moderate** at Year 1 for road users reducing to **Minor** At Year 10, when the planting of the bund and sections of hedgerow close to the site access are fully established. Vehicles focus will mainly be within the road corridor with views towards the site mainly screened behind the existing site boundary hedgerow.
- 8.3.5 For the rest of the routes within the study area no more than **Negligible** effects are predicted from the minor road network, with those located away from the site's boundaries and immediate setting largely experiencing **No Change** to the baseline situation.
- 8.3.6 For the local footpath network, it is the case that most routes are located away from the site and its immediate context will not be subject to substantial visual effects as following analysis of the ZTV and further on-site assessment it was deemed only necessary to assess routes either within the site or in the immediate adjoining fields.
- 8.3.7 From outside of the site users of route NT Kelham FP6 would experience **Negligible-Low** effects which would be at most **Minor** level of visual effects.
- 8.3.8 It is unavoidable that the footpath NT Kelham FP 4 which heads through the site, crossing the deployment area, along the existing access track between the northern and central fields will experience a '**High**' magnitude of visual change leading to '**Substantial**' visual effects. These effects are however limited to the obstruction of ground cover and low level vegetation at the far sides of the site, by the rows of arrays. But views to distant woodland are retained with only partial screening to lower sections of vegetation on the nearby embankment at Kelham Hills. Therefore, the defining visual character enclosing the site is largely retained. The effects whilst considered long term (40 years) would also be reversible upon decommissioning of the scheme.
- 8.3.9 Likewise, for the long distance footpath route, Trent Valley Way, which passes directly to the east of the site (A617 footway) and southern deployment field, users would also experience a **Moderate-Major** magnitude of visual change (limited to a 500m section of the route which is c.6km in length within the study area) resulting from the development, which are '**Substantial**' visual effects at Year 1. These effects would reduce to **Moderate** at Year 10, following the establishment of the proposed eastern boundary hedgerow to be planted alongside the fence line of the southern deployment. So, in the long term, visual effects would reduce to a '**Not Substantial**' level and would also be reversible upon decommissioning of the solar farm and BESS infrastructure.

8.4 ASSESSMENT OF PREDICTED VISUAL EFFECTS ON RESIDENTIAL RECEPTORS WITHIN 500m

Selected Recreational / Cultural Destinations

- 8.4.1 Within the focussed study area, there is only one recreational and cultural destination that has the potential for visibility to the site area. The other destinations are much further afield with no intervisibility with the site

Table 9: Recreational and Cultural Destinations Visual Assessment

Kelham Hall, Kelham	
Distance from site (closest area of the site boundary)	c.625m east
Susceptibility to change	Visitors to the hall for events. High
Value of view	High

Sensitivity of visual receptor	High
Scale of visual effect	On site assessment confirms that the events venue and grounds would not have views to the site as it is afforded high levels of screening from the dense woodland bounding the east side of the site (which also screens the village centre of Kelham).
Geographical extent	No visibility – not applicable
Duration and reversibility of effect	No visibility – not applicable
Magnitude of visual effect	None
LEVEL OF VISUAL EFFECT	Neutral ‘NOT SUBSTANTIAL’ visual effects

- 8.4.2 In summary No SUBSTANTIAL visual effects are concluded for the selected cultural and recreational destinations within the study area, most of which were in any case scoped out of the visual assessment given they have no intervisibility with the site.

8.5 CUMULATIVE VISUAL ASSESSMENT

Refer to Drawing HC1002 02 06 Cumulative Sites

- 8.5.1 A review of planning applications has been undertaken within the Local Planning Authority for the study area for this application. It is confirmed that there are no consents for the cumulative schemes of those listed in Table 1 in the introduction of this report.
- 8.5.2 The 2 solar schemes (Sites C and D) close to Knapthorpe to the north west of the study area and the BESS scheme Site B, located 400m west of this application are awaiting planning decisions.
- 8.5.3 Analysis of the ZTV shows there are no areas of theoretical visibility extending towards Knapthorpe, the location for the 2 proposed solar sites (Sites C and D) which adjoin each other on land surrounding Knapthorpe, to the south of Caunton. The sites are screened from Kelham by topography as well as intervening woodland including Kelham Hills to the immediate north west of the site. Therefore the development of the solar schemes at Knapthorpe and/or solar and BESS proposal at Kelham would not give rise to any combined cumulative visual effects and the separation distances between the sites (>2.7km) are considered sufficient so as not to lead to any substantial successive or sequential visual effects.
- 8.5.4 The proposed BESS scheme located 400m to the west (Site B) on the south side of A617 to the immediate west of Averham village is awaiting a planning decision. The ZTV with Barriers (Drawing HC 1002 02 03 R0) shows only the effects of topographic, woodland and buildings screening for the proposed Solar and BESS scheme at Kelham. The viewpoint and residential receptors assessment for this application has confirmed that considerable screening to the site is also provided by the tall southern boundary hedgerow bordering the A617 (Refer to Viewpoint 7, Residential Receptors R10 Staythorpe Road and R11 , R12 and R13 either side of the ‘The Close’, Averham. As this roadside hedgerow is directly between the 2 sites it is concluded that there would be very limited intervisibility between the developments and at most small glimpsed views at the outset given the low level nature of each development and the dense vegetative barrier.
- 8.5.5 Furthermore, following the implementation of landscape mitigation proposals for Site B (Refer to Drawing P22-1211_EN_0003) which includes bunding around the site compound and native woodland planting bounding the A617, so that once this vegetation is fully established, there would likely be no views at all between the two sites. Therefore if either or both become operational developments, they would not give rise to any cumulative visual effects.
- 8.5.6 It is therefore concluded that an at most ‘Negligible’ level of Cumulative visual effects would arise from the development of the BESS scheme (Site B) which is a Neutral level of Visual Effect.

9. SUMMARY AND CONCLUSION

9.1 LANDSCAPE ASSESSMENT

- 9.1.1 Effects from the Solar Farm and BESS development upon landscape character are restricted to the site and immediate context which are inclusive of adjacent fields to the south west, west, north and northwest of the site area only, located wholly within one Landscape Character's Policy Zone Village Farmlands TW PZ11. The value of the adjoining LCA's was also considered to assess the susceptibility of the wider landscape to the solar farm and BESS development.
- 9.1.2 The site comprises an existing arable farmland surrounded by mature landscape features which limit the scale of effect upon the wider area of the character area and remainder of the study area. Landscape effects are restricted to the site area and immediately adjoining areas forming the prevailing setting to the site only. The development would have minimal effect upon the existing landscape structure but set within it upon former arable fields that would revert to tussock grassland with solar panels.
- 9.1.3 With regard to the methodology and the baseline landscape value assessment, and through consideration of the prescribed susceptibility to change indicators; the landscape within the wider study area, largely comprises Village Farmlands LCA, would have a **Medium** susceptibility to change to this development of a solar farm and BESS in this particular location. This accords with the general **Moderate** scoring for its characteristics, sensitivities and condition in the District LCA (Sherwood and Newark).
- 9.1.4 At a site level, considering the indicators of susceptibility to change, the site landscape character and the scale of development, it is concluded that the site area has a **Medium** susceptibility to change to the development of a solar farm (and BESS) in this particular location. Some characteristics e.g. landcover are vulnerable to the proposal, but in general the landscape could accommodate the development without an overly significant change in the landscape character.
- 9.1.5 With regard to the methodology and the baseline landscape value assessment, and through consideration of the prescribed susceptibility to change indicators; the value of the combined landscape LCA's within the wider study area is considered to be **Medium**.
- 9.1.6 With regard to the methodology and the baseline landscape value assessment, the value of the landscape at the site level overall, is also considered to be **Medium**.
- 9.1.7 Considering the susceptibility to change of both the site and immediate context and wider landscape character area are overall **Medium** and landscape value indicators provide an overall value of **Medium** for all areas, the landscape sensitivity of the site and its immediate context and wider study area to the solar farm are concluded to be **Medium**. In accordance with the methodology, these are "landscape character, elements, and associated land uses which by nature of their character would be able to partly accommodate change of the type proposed".
- 9.1.8 The magnitude of change arising from the proposed solar farm development is considered **Medium** at a site level. In accordance with the methodology this is; "Partial loss or moderate alteration to one or more key landscape elements/features/characteristics of the baseline and or introduction of elements that may be prominent but not necessarily substantially uncharacteristic with the attributes of the receiving landscape but which could co-characterise parts of the landscape."
- 9.1.9 This reduces to a **Low** level of effect when considering the entirety of the host character area Trent Washlands: Village Farmlands (TW PZ 11). Kelham Hills (TW PZ 32) an area of woodland and meadows adjacent to the site that will be little affected by the nature of the proposals. In accordance with the methodology this is; "Minor loss or alteration to one or more key landscape elements of the baseline and may not lead to a characterising or co-characterising effect of the wider landscape".
- 9.1.10 The level of landscape effect is determined by consideration of the landscape sensitivity and the magnitude of landscape effect. With reference to the conclusions, a **Medium** landscape sensitivity and a **Medium** magnitude of change and in accordance with the methodology, the Kelham Solar Farm and BESS is considered to result in a **Moderate** level of landscape effect overall, these are 'Not Substantial' landscape effects. The scheme would affect an area of landscape character of **Medium/Moderate** value / susceptibility to change, but limited to effects within the local context, diminishing the sense of place locally and most evidently setting of the PRoW NT Kelham FP4, crossing the north western area of the

site and users of the permissive bridleway that will provide a circular route which broadly follows site boundaries.

- 9.1.11 With reference to the conclusions, a **Medium** landscape sensitivity and a **Low** magnitude of change and in accordance with the methodology, the Kelham Solar Farm and BESS is considered to result in a **Minor** level of landscape effect on the wider study area overall, these are **'Not Substantial'** landscape effects.

9.2 VISUAL ASSESSMENT

- 9.2.1 The visual assessment demonstrates that the area over which the proposed Solar Farm and BESS would be visible from would be considerably smaller in reality than illustrated by the ZTV. This is due to localised screening as intervening vegetation (e.g. hedges) not included as visual barriers in the model would reduce the extent and number of panels visible. Visibility is generally very localised to the areas immediately adjoining the site boundary only. Visibility of the development (up to 2m high solar panels and 3m BESS infrastructure) is screened by a combination of rural fringe undulating topography and mature vegetation around the site. The two nearby villages of Kelham and Averham are both well screened by vegetation within the site's immediate context so that views do not extend beyond the fringe of the settlements facing towards the site (up to c.200m).
- 9.2.2 With regard to residential receptors and settlements there is only one residential receptor (single detached property) which has the potential to be subject to substantial visual effects prior to any mitigation measures being implemented. Most available views from properties will be partial and or glimpsed views from first floor level due to garden and site boundary vegetation effectively screening ground floor views. The majority of the other properties assessed were found to experience no more than a **Minor** magnitude of visual effect which is a **'Not Substantial'** level of effect with some also **Neutral** and subject to **No Change**. The nearby villages of Kelham and Averham have very limited visibility towards the site and their nucleated settings would not be subject to any substantial changes.
- 9.2.3 With regard to recreational routes and recreational destinations, **no substantial** visual effects are concluded for any vehicle users within the study area, with visibility to the proposed development limited from surrounding transport routes.
- 9.2.4 Road users will experience **Moderate-Major** effects at Year 1 when passing the site to the immediate east on A617 for a 500m section of the route due to some breaks in the roadside hedgerows. These effects would reduce to at most **Moderate** once the mitigation hedgerow at the east side of the deployment matures which will substantially screen low level views into the site from the road corridor. Although walkers will still be able to see over into the solar farm the scheme will not appear overbearing with views to distant woodland still remaining intact.
- 9.2.5 For the local footpath network, it is the case that most routes located away from the site and its immediate context will not be subject to substantial visual effects.
- 9.2.6 The viewpoint assessment considered a range of representative viewpoints within the ZTV and 2.5km study area. These demonstrated that the largest magnitude of effects (**High**) would occur for PRoW users from Viewpoint 3 within the site followed by Viewpoints 4 and 5 adjacent to the site where road users would experience a **Medium-High** Magnitude (Year 1 only) from the road corridor to the east.
- 9.2.7 It is unavoidable that the footpath NT Kelham FP 4 which heads through the site (VP3) , crossing the deployment area, along the existing access track between the northern and central fields will experience a **High** magnitude of visual change leading to **'Substantial'** visual effects. These effects are however limited to the obstruction of ground level views by the rows of arrays. However, views to distant woodland are retained with only partial obstruction of views to the foot of woodland on the nearby embankment at Kelham Hills, such that the defining visual character enclosing the site is largely retained. The effects whilst considered long term (40 years) would also be reversible upon decommissioning of the scheme.
- 9.2.8 The remainder of the viewpoint locations (no.s 6-11) set away from the immediate setting c.200m+ will be subject to a no more than **Low** magnitude of visual effects which are **Minor** effects and of a **'Not substantial'** nature.

9.3 CONCLUSION

- 9.3.1 The gently sloping topography of the rural fringe landscape area with little variation in height and surrounding landscape features (woodland and hedgerows) combine to contain the potential landscape and visual effects of the development to the immediate context of the site (generally up to c.200m out into adjoining fields). The Substantial visual effects of the development experienced on the footpath crossing through the solar deployment are unavoidable and when moving outside of the site the level of effects reduce immediately for walkers on most routes to a **'Not Substantial'** level.
- 9.3.2 Other visual effects of note are focussed to the few receptors that immediately surround the site boundaries and in most cases these effects will reduce so as to be of a **'Not Substantial'** level once mitigation planting has been fully established, as is evidenced by the mitigation views produced for individual photomontages (VP's 1, 4 and 5).
- 9.3.3 In conclusion the assessment demonstrates that the proposed Solar Farm and BESS could be successfully integrated within the existing site features and could be assimilated into the surrounding landscape without causing wide scale change to landscape character and visual amenity.

