SOLAR FARM NEAR STOCKING PELHAM

Landscape and Visual Impact Assessment

Client:
Berden Solar Limited

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SUMMARY

Introduction

Berden Solar Limited Ltd is seeking planning permission to construct a ground mounted photovoltaic solar farm on arable land adjacent to the existing National Grid substation which lies adjacent to the village of Stocking Pelham, Essex. This report assesses the likely effects of the Proposed Development on the visual amenity of those living, working and visiting the area and on the landscape in terms of its character and a resource. The site is located within the jurisdiction of Uttlesford District Council and the current plan is the Uttlesford Local Plan Adopted, January 2005. The Site is not subject to any protective landscape, ecological or historical designations.

Topography and Drainage

The Site lies within an area of undulating landscape and this wider landscape ranges between 93m Above Ordnance Datum (AOD) to 134m AOD. The Site slopes gently to the north from around 125m AOD down to 112m AOD although there is a slight dip or fold in the centre which drains the Site to the east.

Landscape character and sensitivity

The site is located within the South Suffolk and North Essex Clayland (NCA 86, Natural England) and the Chalk Upland Landscape Character Type A1 (Essex County Council). More locally it lies within the Berden and Farnham Chalk Upland Landscape Character Area (Uttlesford District Council). The site-specific character assessment undertaken for this study notes that the existing Site is representative of the gently undulating chalk upland farmland, but a significant defining feature locally is the electrical infrastructure. Although the Pelham Substation is reasonably well concealed by tree cover the taller elements are visible from middle and long distant views and the network of transmission lines radiating from it significantly influence the local landscape character. Stocking Pelham and Berden are discretely located within the landscape, set within high levels of tree cover. They are attractive historic villages which have seen very limited residential expansion. Mature hedges, tree belts and copses, both within the Site and within the surrounding landscape, are locally defining features and afford a significant amount of visual enclosure.

Overall, the value of the landscape of the Site is Medium, while that of the wider countryside is Medium. The PRoW network that crosses the Site is the most significant value of the Site in terms of providing access to the countryside, particularly from the adjacent villages. The Site and immediate landscape are considered to have a Medium susceptibility to the type of development proposed, resulting in a Medium Sensitivity.

The Proposed Development

The Proposed Development involves construction of the following:

1) Installation of 100,368 photovoltaic solar panels mounted on tables which will have a front edge at around 0.9m above ground and the rear edge 2.5m (a twenty-degree slope). Rows will run west to east, following the existing contours of the ground with the panels facing south. Spacing between rows will vary between 7.9m and 9.8m, depending on topography.

2) Ten inverter units distributed among the panels and accessed via a combination of existing and proposed farm tracks (formed from crushed stone). Inverter units are typically the size of standard shipping containers.

3) A small substation protected with a palisade fence will be built in the southwest corner, adjacent to the battery storage facility. It will be accessed via the internal track network from the main access to the solar farm on the Pelham Road.

4) Deer fencing around each field to exclude large mammals and humans from the facility. Gates to allow the passage of small mammals such as badgers and foxes will be provided at intervals along the fence.

5) Existing footpaths will be retained along their same routes, typically within corridors 10 – 15 m wide between existing hedge lines and the proposed deer fence. A hedge will be planted in front of the deer fence to reduce the visual impact of the solar farm from view, reducing the corridor by 3 m (allowing for growth of the hedge).

6) A permissive path will be established just inside the landholding on the south side of the Stocking Pelham Road. This path will establish a pedestrian link between Stocking Pelham and Berden (currently there is no footway along the highway).

7) One hectare of community woodland will be created in the northeast corner of the Site. As well as providing recreational and wildlife benefits it will also screen the solar farm from a residential area of Berden which lies immediately to the north. The permissive path will pass through the woodland. The remaining area of arable field (2.7 hectares) will be sown as a wildflower meadow.

8) 2.4 hectares of woodland will be planted elsewhere, providing screening, landscape and wildlife benefits.

No trees or hedges will need to be removed to build of the solar farm.

Landscape strategy

Visual analysis indicates that the proposed solar farm will be well screened by existing tree and hedge cover which lies to the south and west. To the east views can be screened by hedge planting. The most significant views will be from the Pelham Road and higher ground further north. For this reason, it is proposed to plant woodland buffers along the northern edge to augment the existing roadside tree cover and a new hedge which has recently been planted by the landowner. As well as the woodland planting some individual fast-growing trees have been specified to ensure the views from the north are screened as rapidly as possible. The public rights of way which will pass through the solar farm will be maintained on their current alignment, set within 10 m wide corridors, within which native hedge planting will screen the solar farm from view when in leaf. Tall stature trees will be planted where space and shading issues allow, while on other boundaries smaller stature species such as hawthorn and field maple will be planted. The proposed planting will leave a legacy of tree and hedge cover across the Site once the solar farm has been decommissioned.

The slight north facing slope means that the panels will be spaces sufficiently far apart, which combined with the short solar farm grass mix, will provide good nesting opportunities for skylark nesting. The grass sward will also allow sheep grazing within the solar farm if appropriate/practical. Species rich grassland will be specified around the margins.

The main mitigation proposed is the planting of native woodland and hedgerows. Since these will be planted in arable soil there is the expectation that the plants will be able to establish quickly. Typically, limited growth is experienced in the first three years but between 4 and 7 years, growth can be rapid (subject to weather conditions). It will be necessary to trim the hedges during this growth period to establish a densely branching form which will ensure a solid screen when the hedge is in leaf and adequate screening in winter. Therefore, it is likely to take up to 8 - 10 years before the hedges have established a dense 2.5 – 3 m high structure.

The woodland planting will provide a screening function within a similar time frame but, it will take over fifteen years before if forms an adequate screen to those crossing the high ground to the north. The individual tree planting on

the northern edge includes a fast-growing poplar species which gains height quickly before forming a broad crown. This makes it an ideal screening tree for the northern edge and should significantly reduce views of the solar farm from the land to the north within an acceptable timeframe.

Landscape and Visual Impact during Construction

Construction activities associated with solar farms typically do not have a high visual impact because the plant used is typically not significantly greater than farm machinery. The main visual impact arises from vehicles delivering to the Site and plant working on the Site, typically small scale. Visual impact then gradually increases during the construction period as more and more panels are installed, reaching maximum landscape visual impact once operational, before the landscape mitigation has time to be effective.

Effect on Topography

The tables supporting the panels will be mounted on pile driven legs which will follow the existing contours of the Site. The tracks will also follow the existing contours. The existing ditch network draining the Site will be retained. The effect of the Proposed Development on topography will be Negligible.

Effect on landscape character

The landscape character of the fields which comprise the Site has a Medium sensitivity and the magnitude of change will be High once the solar farm has been built out. This will result in a Moderate to Major adverse effect. The hedgerow and woodland planting will reduce the visibility of the panels within the Site to a certain degree, reducing the impact on its landscape character to Moderate adverse. The proposed development will only have a visual influence on a small area of the wider countryside (in the vicinity of Chalk Pit Lane) and this area is fairly distant and views will be glimpsed. Therefore, visually it will only have a Minor adverse effect on the wider character area. It will, however, increase the amount of electrical infrastructure within the area (a perceptually negative characteristic) and so intrinsically it will also have a Minor adverse effect.

Effects on visual amenity

The Site benefits from good visual enclosure to the west, south and north and the only significant views from the wider countryside are for small area to the north and northeast. Several Public Rights of way pass through or immediately adjacent to the Site and the proposed solar farm will result in a Major adverse effect on the visual amenity of users until mitigation in the form of hedge planting has become effective.

The proposed solar farm will not result in any significant adverse effects on the visual amenity of residents since no properties are close to or will significantly overlook the proposed solar farm and any views will eventually be screened by the hedge planting.

The most significant views will be afforded to those travelling along the Pelham Road as it passes the Site and walkers crossing the high ground to the north. A hedge has recently been planted along the road which will substantially screen any views of the panels from the road, and this will be augmented with linear blocks of woodland. This woodland will eventually screen the proposed development from the high ground to the north, although it will take 15+ years to be fully effective.

The Proposed Development will be partially visible from a small area of countryside to the northeast in the vicinity of Chalk Pitt Lane and Drover Lane but will be seen as a thin sliver of grey within a wide panorama with the existing transmission lines and substation forming a skyline backdrop.

It is concluded that the proposed development will not be particularly visible from the wider landscape and that these impacts can be adequately mitigated. The only significant visual impacts will be confined to those using the PRoW network that passes through the proposed development.

Cumulative landscape and visual impacts

The Proposed Development will have no direct cumulative visual impacts with either existing or proposed solar farms in the district but walkers using the local footpath network may experience a sequential adverse visual impact if this solar farm and the Pelham Spring Solar Farm (currently refused) are built since (depending upon their route, may pass through or adjacent to both. This will also lead to a sequential adverse effect on landscape character as there will be an increased perception that the landscape adjacent to the substation is dominated by electrical infrastructure.

Decommissioning

At the end of its operational life or as set by a planning condition, the solar farm will be removed including all fencing, piles and underground cabling and the access tracks (apart from those that will assist in the ongoing agricultural management of the land). The substation and inverters will be removed, and the land returned to agriculture. The trees, hedges and woodland planted as part of the development will be retained, forming a beneficial long-term legacy, enhancing landscape character, sequestering carbon and increasing ecological biodiversity.

Conclusion

It is concluded that while the Proposed Development will result in some adverse landscape and visual effects the significant effects will be confined to a relatively small area of countryside which is already significantly influenced by electrical infrastructure. Once mitigation is effective the impact to the majority of receptors will be either Negligible or Minor with only those using the footpaths which pass through the proposed solar farm experiencing Moderate adverse effects, largely due to winter views and the loss of the open character along the routes. While the effects will last for the operational life of the solar farm, they will be temporary, with the benefit of a legacy of increased tree and hedge cover across the Site. The adverse effects should be weighed against the benefits of providing renewable energy.

CONTENTS

1 INTRODUCTION

1.1. Pelham Solar Limited Ltd ("the Applicant") is seeking planning permission to construct a ground mounted photovoltaic solar farm ("the Proposed Development") on land adjacent to the existing National Grid substation which lies adjacent to the village of Stocking Pelham, Essex. The site location is outlined in Figures 1 and 2, (Appendix B).

Purpose of the LVIA

1.2. The main objectives of the LVIA are:

- To describe the landscape character of the site and its surroundings, evaluate its sensitivity to change and, taking into account the magnitude of change, assess the effect that the proposal would have on the local landscape character.
- To identify potential visual receptors (i.e. people who would be able to see the development), evaluate their sensitivity to change and, taking into account the magnitude of change, assess the effect that the proposal would have on visual amenity. Residential visual amenity issue is excluded from this LVIA because the Proposed Development is considered to be sufficiently distant from residential properties that it will not fall into the threshold of requiring an assessment.
- To identify landscape elements associated with the site, evaluate their sensitivity to change and, taking into account the magnitude of change, assess the effect the proposals would have on landscape elements.
- To identify mitigation measures and opportunities for landscape character and visual amenity enhancement, in order to mitigate, offset or reduce the predicted adverse effects.

1.3. The LVIA assesses the operational stage of the proposed development only, as the construction and decommissioning stages would be of short and temporary duration. Any potential effects brought about by the construction and decommissioning stages are likely to be lower or similar to those assessed postconstruction. The effects are therefore assessed at Year 1, immediately post completion, and at Year 7 to take into account proposed mitigation and enhancement measures. The assumed vegetative growth is taken as 0.5m per year.

Methodology

1.4. This assessment has followed guidance set out in the 'Guidelines for Landscape and Visual Impact Assessment', Third Edition (Landscape Institute and the Institute of Environmental Assessment, 2013). The full method of assessment is presented in Appendix A. The assessment seeks to identify impacts which are either so beneficial or so adverse that they should be a significant consideration in determining the application. The levels of significance are set out in Table 1.

Table 1: Levels of impact and their significance

Level of Impact	Significance
Major adverse	The Proposed Development will cause substantial degradation of the landscape character/landscape features/existing views. These adverse effects are key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
Moderate adverse	The Proposed Development will cause a readily noticeable degradation of the landscape character/elements/existing views. These adverse effects may be important but, are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
Minor adverse	The Proposed Development will cause small degradation of the landscape character/elements/ existing views. These adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process.
Negligible adverse	A barely perceptible Adverse change to the landscape/view
Neutral	Adverse effects are equally offset by Beneficial effects of a similar nature.
Negligible Beneficial	A barely perceptible Beneficial change to the landscape/view.
Minor Beneficial	The Proposed Development will cause a small improvement to the landscape character/elements/ existing views.
Moderate Beneficial	The Proposed Development will cause a readily noticeable improvement to the landscape character/elements/ existing views.
Major Beneficial	The Proposed Development will cause substantial improvement in landscape character/elements/existing views. In making a decision about the proposal this advantageous effect may be considered to compensate to some degree for other, non-landscape, adverse effects.

Data Collection

1.5. Existing background Information on the study area has been sourced from:

1. Ordnance Survey – 1:50,000 and1:25,000 scale maps.
2. Countryside Agency – Character Map of England.
3. Countryside Agency – Countryside Character Initiative Website.
4. Magic Website (www.magic.gov.uk).

5. Uttlesford District Council web site.

6. Google Earth and measuring tools within it.

Limitations to Survey Methods

1.6. The initial assessment was undertaken on the 17th October 2021 when deciduous trees and hedges were in leaf, a time of least visibility across the landscape. At time of the survey the weather was a mix of sun and overcast sky, but visibility was good. A second site visit was undertaken on the 20th January 2022, a time of greatest visibility across the landscape, the weather clear and sunny.

1.7. The landscape character and views have been assessed from public vantage points. Although there is no right in planning law to a view from a private property, visual impact assessment protocol normally requires such views to be considered. In this case, however, it was impractical to seek access to private property.

Photography and Imaging

1.8. Photographs illustrating views from each viewpoint were taken using a Sony Alpha 7 digital camera with a Sony SEL200F 18 lens, set at a focal length of 50 mm. The camera has a full frame sensor, and is set level both vertically and horizontally, 1.5 m above ground from publicly accessible locations.

1.9. Photomontages have also been produced for the key viewpoints in accordance with Visual Representation of Development Proposals, Landscape Institute Technical Guidance Note 06/19,17 September 2019. Since solar farms can frequently extend across the field of view panoramic images are presented, which if printed at A1, represent the view of the naked eye if held 400 mm 500 mm from the eye. Typically, a viewer would have to turn their head to take in the whole panorama and the A1 sheet should ideally be held in a curve to replicate this.

Determination of the study area

1.10. The extent of the visual study area has been determined by running software (ESRI ArcGIS Viewshed run on 3D LiDAR topographical map data) which calculates the potential visibility of the Proposed Development based on topography and certain elements within the landscape such as large blocks of woodland and large buildings. LiDAR is a radar-based system which picks up forms within the landscape (and has a distance error of 0.5 – 2 m and a height error of 10 cm) but it may not record all potentially screening elements such as hedgerows, walls or even deciduous woodland if the LiDAR data was gathered in winter. For this reason, the woodland blocks immediately adjacent to the Proposed Development were modelled at a height of 12m. The software creates a raster image that indicates the potential visibility of the Proposed Development, known as the Theoretical Zone of Visibility (TZVI).

1.11. The model takes into account the curvature of the earth and light refraction, with observer heights of 2 m. The publicly accessible areas where visibility is indicated were visited to see if the mast is likely to be visible or whether views will be blocked by trees, hedges or buildings. The TZVI is presented in Figure 3. Multiple survey points were taken to include heigh points and the edges of the panel blocks.

1.12. The study area for landscape character extends as far as a 5 km radius.

2 LANDSCAPE AND PLANNING CONTEXT

National Planning Policy Framework July 2021

2.1. The National Planning Policy Framework sets out the Government's planning policies for England and how these should be applied. There are three overarching objectives of which (c) is the most relevant in relation to this assessment:

" c) an environmental objective – to protect and enhance our natural, built and historic environment, including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy".

2.2. The following chapters provide further guidance:

15. Conserving and enhancing the natural environment

16. Conserving and enhancing the historic environment

Local Plan Policy

2.3. The site is located within the jurisdiction of Uttlesford District Council and the current plan is the Uttlesford Local Plan Adopted, January 2005. Relevant policies are:

- Policy GEN4 - Good neighbourliness.
- Policy GEN2 – Design.
- Policy GEN5 – Light pollution.
- Policy GEN7 – Nature Conservation.
- Policy E4 - Farm Diversification: Alternative use of Farmland.
- Policy ENV8 – Other Landscape Elements of Importance for Nature Conservation.
- Policy ENV15 - Renewable Energy.

Landscape Designations

2.4. There are no international or national landscape designations relating to the application site or its immediate surroundings.

2.5. The Site and immediate surroundings are not subject to any Tree Preservation Orders.

Ecological Designations

2.6. There are no statutory environmental designation within the Site or nearby and the Site does not lie within a buffer zone of any ecologically designated area.

Public Rights of Way (PRoW) and Open Access Land

2.7. There is a particularly extensive network of PRoW in the locality and several cross the Site. The key PRoW are identified by the Definitive Map numbers annotated on Figure 9. The direct, indirect and cumulative effects of the Proposed Development on users of the network are assessed in this report. There is no Open Access land nearby.

Designated historical assets

2.8. There are no designated heritage assets on the Site and the only potential indirect impact on heritage assets in terms of setting will be to the following:

- Church of St Nicholas (Grade I) within Berden, List No: 1170264
- The Crump (Grade II), List No: 1112471
- Berden Hall (Grade II*), List No. 1112468

2.9. The effect of the Proposed Development on the visual settings of these properties is assessed in the report. A separate Heritage Assessment has been prepared for the application and should be consulted for a more comprehensive analysis.

Consultation

2.10. An Environmental Impacts Assessment screening request was made to Uttlesfield District Council and a reply was received on the 14th October 2021.

"*The most significant impacts are likely to be visual but not significant in terms of EIA impacts* " and

"*In addition, landscape character assessments will also need to consider the existing the wider landscape impacts of the proposals and particularly for users of the public rights of way networks, both within and surrounding the footpath network".*

"In terms of cumulative developments, this proposal would need to be considered in relation to similar applications that are currently being assessed for solar farms by the Local Planning Authority. These include application UTT/21/0688/FUL- Land At, Cole End Farm Lane, Wimbish and application UTT/21/2846/FUL- Chesterford Park, Little Chesterford, Essex".

2.11. Subsequent to the screening request an application for the Pelham Spring Solar Farm close to the south of the Site has been made and so the cumulative effects of this will also be considered.

2.12. The council concluded that:

"Given the location of the proposals and taking into consideration the potential of cumulative impacts arising, it is considered that the proposals would not give rise to significant adverse effects. Therefore, an Environmental Impact Assessment is not required to be submitted with the application".

3 LANDSCAPE BASELINE

Topography and Water Courses

3.1. The Site lies within an area of undulating landscape and this wider landscape ranges between 93m Above Ordnance Datum (AOD) to 134m AOD. The Site slopes gently to the north from around 125m AOD down to 112m AOD although there is a slight dip or fold in the centre which drains the Site to the east.

3.2. Beyond the Site to the north the land continues to drop down to a small valley and small stream at around 93m AOD before rising to a ridge which crests at 115m AOD 1km from the Site. The southern edge of the Site also forms a ridge line, with the land beyond gently dropping down to around 99m AOD in the vicinity of Battles Hall. This is significant in relation to the proposed Pelham Spring solar farm which would occupy this south facing slope: essentially the two proposed solar farms would be visually separated by topography.

3.3. The land to the east and west of the Site is also part of the north facing, gently undulating slope in which the Site lies. This slope eventually drops down into the River Stort, over 2 km to the east. The Stort is the only main watercourse in the vicinity and flows south.

3.4. As a result of topography the Site is not visible from the south and is potentially only visible from a small area of high ground to the north, although due to tree cover only a small area of hillside to the northeast affords a view back towards the Site in the vicinity of Chalk Pit Lane (see View 15, Figure 10.15: Appendix B).

Description of the Site and the immediate surroundings

3.5. The proposed solar farm will occupy four large fields, currently arable. The fields are divided by hedges which are typically 2 – 6m high and support the occasional large tree. Tracks for farm vehicles run alongside most of the internal hedges and some of these are the routes of the PRoW. There are no landscape features within the fields, such as mature trees or structures. The fields are drained via a series of ditches which take the water in a northeast direction towards Berden and the catchment of the Stort.

Land to the north

3.6. The north boundary of the Site is defined by the Pelham Road which heads east from Stocking Pelham to Berden. The only residential properties on this stretch are nine single storey dwellings on the northside of the road on entering Berden (Benskins Close). They afford partial views towards the Site, mainly in winter (see View 9 Figure 10.9, Appendix B). The Pelham Road is flanked by mature hedges which substantially restrict views of the Site, although there are gaps which do afford views to travellers (see Views 10 and 11, Figures 10.10 and 10.11, Appendix B).

3.7. The land drops to a small valley north of the Pelham Road which contains several properties, many are listed (Berden Priory) but due to topography and high tree cover there is no intervisibility with the Site.

Land to the east

3.8. The village of Berden lies beyond the east boundary to the north. It is separated from the arable fields by a small paddock on the edge of the village (approximately 100m wide). Also, the Site does not utilise the full extent of the field in the northeast corner. Instead, a 112m wide strip is to be left as agriculture to act as a further buffer to the village and avoid placing panels opposite the nine bungalows on the Pelham Road.

3.9. Further south the east boundary is defined by a linear copse and mature hedgerow with arable fields beyond. A rural lane, The Street, lies 56m to the, along which are scattered three large dwellings set within well vegetated gardens. The effect of the Proposed Development on the visual amenity of residents and users of the lane is assessed (see Views 6 and 7, Figures 10.6 and 10.7, Appendix B).

Land to the south

3.10. The southern boundary of the Site is defined by a mature hedgerow and tree belt, which, along with topography, screens the Site from views further south. A PRoW (5 25) heads east-west on the southside of the hedge and affords glimpsed views of the Site through the hedge in winter (but views are not significant).

3.11. A recently constructed battery storage facility lies in the southwest corner of the Site and comprises a small substation and seven small buildings housing batteries with twenty-six inverter and transformer units. The buildings are finished in light grey and are locally prominent in some views, but tree and hedge planting to mitigate the visual impact will eventually screen the facility.

3.12. The main Pelham Substation lies south of this facility, largely screened by the tree cover on the southern boundary. Eight high voltage transmission radiate out from it to the west, south and east and these are prominent features in many views within the local landscape.

3.13. A group of properties lie just beyond the southeast corner of the Site, including a converted water tower set within a copse. In summer there is little intervisibility with the Site due to tree and hedge cover but in winter views are possible.

Land to the west

3.14. The western boundary of the Site is defined by the tarmacadam access road to the Pelham Substation. PRoW 5 27 also runs along this access and affords views into the Site through gaps in a sporadic hedgerow on the east side of the access (see View 2, Figure 10.2, Appendix B). A more substantial hedgerow runs along the west side of the access, beyond which lie a series of paddocks with a good hedgerow structure, and beyond the village of Stocking Pelham. This intervening hedgerow structure (and some woodland blocks) means that there are no views of the Site from the village.

Landscape Character

3.15. Landscape character is defined as:

> "*A distinct, recognisable and consistent pattern of elements, be it natural (soil, landform) and/or human (for example settlement and development) in the landscape that makes one landscape different from another, rather than better or worse."* (Natural England).

3.16. Impacts on the landscape may arise where the landscape character of the area is modified by the development. It is important to place the application site in its landscape context.

National

3.17. Natural England has identified 159 geographical areas of similar landscape character known as National Character Areas (NCAs). This mapping, sometimes described as 'The Character of England Map', provides a description of landscape character at the national scale. It is considered that whilst the NCAs provide a national spatial framework, the scale of the mapping and information is of limited use at the local scale. The site is located within the South Suffolk and North Essex Clayland (NCA 86), as identified by Natural England. The key characteristics includes:

- *"An undulating chalky boulder clay plateau is dissected by numerous river valleys, giving a topography of gentle slopes in the lower, wider valleys and steeper slopes in the narrower upper parts.*
- *Fragments of chalk give many of the soils a calcareous character, which also influences the character of the semi-natural vegetation cover.*
- *South-east-flowing streams and rivers drain the clay plateau.*
- *Watercourses wind slowly across flood plains, supporting wet, fen type habitats; grazing marsh; and blocks of cricket-bat willows, poplars and old willow pollards. Navigation locks are present on some rivers.*
- *Lowland wood pasture and ancient woodlands support the dormouse and a rich diversity of flowering plants on the clay plateau. Large, often ancient hedgerows link woods and copses, forming wooded skylines.*
- *The agricultural landscape is predominantly arable with a wooded appearance. There is some pasture on the valley floors.*
- *Field patterns are irregular despite rationalisation, with much ancient countryside surviving. Field margins support corn bunting, cornflower and brown hare.*
- *Winding, narrow and sometimes sunken lanes are bounded by deep ditches, wide verges and strong hedgerows.*
- *A strong network of public rights of way provides access to the area's archetypal lowland English countryside."*

Regional

3.18. The landscape around the site is described and analysed in the Essex Landscape Character Assessment, published in 2003 by Essex County Council. According to the published Assessment the site falls within

the southern end of the Chalk Upland Landscapes Landscape Character Type (LCT) A1. According to the published assessment (para 4.2.2):

"*Typical hedgerow species are Hawthorn and Ash, with occasional Blackthorn, Elderberry, Dogwood, Hazel, Beech, Field Maple, Oak, Dog rose, Spindle, Wayfaring tree."*

3.19. The 'Key Characteristics' of the host North West Essex Chalk Farmland A1 LCA are:

- *"Strongly rolling landform of broad roundbacked ridges.*
- *Large scale arable farmland.*
- *Distinctive elevated, expansive and generally open character.*
- *Panoramic views from ridgetops.*
- *Dispersed blocks of woodland and isolated copses.*
- *Sparse settlement pattern, small linear villages alongside stream courses, and hamlets with greens. Mostly tranquil and remote character".*

3.20. With regards to the 'Landscape Condition' the published assessment notes:

"*…relatively small number of farmland hedgerows are in poor condition due to lack of management, and tend to be fragmented. Thicker, better managed hedgerows are locally associated with settlements".*

3.21. In terms of 'Past, Present and Future Trends for Change' pylons in the southern part of the LCA and intensification of agriculture have been identified in the Essex.

Uttlesford District Council Landscape Character Assessment

3.22. At the district level, Uttlesford District Council published its own landscape character assessment titled Braintree, Brentwood, Chelmsford, Maldon and Uttlesford Landscape Character Assessments. According to the published assessment the site is located within H4 'Berden and Farnham Chalk Upland Landscape Character Area (LCA), part of Landscape Character Type (LCT) H 'Chalk Upland Landscapes'.

3.23. The 'Key Characteristics' of the LCA H4 'Berden and Farnham Chalk Upland' include:

- "*Broad undulating upland slopes that flatten at the highest elevations.*
- *Distinctly elevated, open, arable fields. Field patterns mainly regular, with large farms and becoming*
- *smaller and more organic in shape in the valleys and around villages.*
- *Scrubby, often fragmented hedgerows or scattered tree groups, with distant blocks of trees framing views, particularly towards the middle and southern part of the area, where it is dissected by Bourn Brook.*
- *A complex array of pylons leading to electricity substation near Berden dominates views in the high plateau. Few roads; sense of emptiness and openness."*

3.24. Its Visual Characteristics have been described as:

"Dramatic views of steeply sloping fields and small church above Bourne Brook.
Highly visible double row of pylons and electricity generating station outside Berden."

3.25. The published assessment goes on to state in 'Sensitivities to Change':

"Sensitive key characteristics and landscape elements within this character area include small patches of woodland (some of which are ancient) and several springs, which are sensitive to changes in land management. The open nature of the skyline on the ridges of this upland landscape is visually sensitive to new development, which may be visible within panoramic views across the plateau. The overall sense of tranquillity within the character area is also sensitive to change and potential new development".

Site specific landscape character assessment

3.26. The existing Site is representative of the gently undulating chalk upland farmland, but a significant defining feature locally is the electrical infrastructure. Although the Pelham Substation is reasonably well concealed by tree cover the taller elements are visible from middle and long distant views and the network of transmission lines radiating from it significantly influence the local landscape character.

3.27. Stocking Pelham and Berden are discretely located within the landscape, set within high levels of tree cover. They are attractive historic villages which have seen very limited residential expansion.

3.28. Mature hedges, tree belts and copses, both within the Site and within the surrounding landscape, are locally defining features and afford a significant amount of visual enclosure.

Landscape Value

3.29. A range of criteria is used to assess the value of a landscape to society in terms of its perceptual, cultural, recreational and ecological contribution. The sites are assessed in relation to these attributes in Table 2.

3.1.

Table 2: Assessment of criteria which contribute to Landscape Value

Element	Assessment in relation to the Site	Value	Assessment in relation to the surrounding area	Value
Landscape quality A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.	The landscape is not subject to any landscape designation which recognises quality. The Site is adversely influenced by the existing facility.	**Medium**	The wider landscape is influenced by the Pelham Substation and radiating transmission lines.	**Medium**
Use In terms of its value to society as a whole	Agricultural production. PRoW traverse the Site and the Site	**Medium**	Agricultural production, countryside for	**Medium**

	forms the rural setting to others.		recreation, electrical infrastructure.	
Scenic quality The term used to describe landscapes that appeal primarily to the senses (primarily but not wholly the visual senses)	Attractive rolling farmland with but visually influenced by the visible transmission lines.	**Medium**	Potentially high but adversely affected by the existing electrical infrastructure. Attractive villages.	**Medium**
Rarity The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type	It is a typical settled farmland landscape common throughout much of central England; a common Landscape Character Type.	**Low**	It is a typical settled farmland landscape, influenced electrical infrastructure. A common Landscape Character Type.	**Low**
Representativeness Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.	The site is not of a type or includes features which are representative of a unique landscape.	**Low**	The wider landscape is not of a type or includes features which are representative of a unique landscape.	**Low**
Conservation interests The presence of features of wildlife and earth science interest can add to the value of the landscape as well as having value in their own right.	The site is not subject to a wildlife designation and as arable land, currently has low ecological value.	**Low**	The substantial network of mature trees, copses and hedgerows forms a valuable network of ecological corridors through the largely arable landscape.	**Medium**
Historical and Cultural Interests The presence of features of archaeological, historical and cultural interest can add to the value of the landscape as well as having value in their own right. Some landscapes are associated with particular people, such as artists or writers, or events in history that contribute to perceptions of the	There are no known heritage assets on the Site but the tower of St Nicholas Church in Berden is visible in some views from within the Site and so it contributes to its wider setting.	**Low**	There are several historical assets within the wider landscape, including Berden, Berden Priory and the Crump.	**Medium**

natural beauty of the area				
Recreational value Evidence that the landscape is valued for recreational activity where experience of the landscape is important.	PRoW traverse the Site and the Site forms the rural setting to others.	**Medium - High**	There is a good network of PRoW in the surrounding countryside.	**Medium - High**
Perceptual aspects A landscape may be valued for its perceptual qualities, notably wildness and/or tranquillity.	The Site is arable farmland and so has no sense of wildness. The tranquillity of the Site generally High but is adversely affected by the proximity of the Pelham Substation.	**Medium**	It is an intensively farmed landscape with no sense of wildness and is adversely affected by the proximity of the Pelham Substation (an when close to the substation, aurally).	**Medium**

3.2. Overall, the value of the landscape of the Site is Medium, while that of the wider countryside is Medium. The PRoW network that crosses the Site is the most significant value of the Site in terms of providing access to the countryside, particularly from the adjacent villages.

Landscape Susceptibility

3.3. The LVIA Guidelines define susceptibility as "*The ability of the landscape receptor (whether it be the overall character or quality / condition of a particular landscape type or area, or an individual element and / or feature, or a particular aesthetic and perceptual aspect) to accommodate the Proposed Development without undue consequences for the maintenance of the baseline situation and / or the achievement of landscape planning policies or strategies*".

3.4. The elements of the landscape which help it accommodate development of this type are:

- Proximity to the Pelham Substation and battery storage facility which has established a precedent for electrical infrastructure in the locality.
- Adjacent mature woodlands providing screening.
- A significant amount of enclosure provided by topography.

3.5. The susceptibility of the wider landscape to the type of development proposed is Medium.

Landscape Sensitivity

3.6. If the Medium value of the landscape surrounding the Site is combined with the Medium susceptibility the sensitivity of the landscape beyond the Site and existing facility is Medium.

4 VISUAL BASELINE

4.1. Visual receptors are “the different groups of people who may experience views of the development” (GLVIA, 3rd edition, para 6.3). In order to identify those groups who may be significantly affected the ZTV study, baseline desk study and site visits have been used. The different types of groups assessed within this report encompass local residents; people using key routes such as roads; cycle ways, people within accessible or recreational landscapes; people using Public Rights of Way; or people visiting key viewpoints. In dealing with areas of settlement, Public Rights of Way and local roads, receptors are grouped into areas where effects might be expected to be broadly similar, or areas which share particular factors in common.

4.2. A series of viewpoints have been chosen to convey the main potential visual impacts. These are not the only places where someone may see the Proposed Development but have been chosen to be sufficiently representative that an accurate overall assessment of impact can be made. The selection includes close views, medium distance views and long distant views and views covering all directions of the compass around the Site. The list of representative views is presented in Table 3. The photographs taken from each public viewpoint are presented in Figure 11. It has not been possible to take photographs from private properties and so the visual impacts from these receptors are estimated.

4.3. Photographs were taken on the 17th October 2021, when the trees were in leaf, and on the 20th January 2022, a time of greatest visibility across the landscape. For the viewpoints the winter photographs have predominately been used to illustrate the worst-case scenario. For each view a panoramic view is presented to show the full context, with labels to identify key features and text to assess the predicted changes to the view. A single frame image is presented on the following page, which if printed at A3, replicates the view of the naked eye, if printed at A3 and held 400 -500 mm from the eye. Photomontages have also been prepared for key views and these are presented in Appendix C

Table 3: Representative Viewpoints

Table 3: Representative Viewpoints				
Viewpoint and Location	**Distance from site** **Elevation**	**Visual receptors**	**Reason for choice**	**Landscape and visual receptor sensitivity**
View 1: The Pelham Road as it heads east out of Stocking Pelham	**Direction of View:** East **Distance to nearest site boundary:** 32 m **Elevation:** 114 m AOD **Grid reference:** TL 45676 29421	Users of the road	To illustrate likely level of visibility to from the eastern edge of the village.	Receptor sensitivity: Lane users Medium. Landscape sensitivity: Medium and Local
View 2: PRoW 5/27 as it heads north along the access drive to the Pelham Substation	**Direction of view:** Northeast **Distance to nearest site boundary:** 5 m **Elevation:** 124 m AOD **Grid reference:** TL 45708 29178	Walkers and workers accessing the substation	Illustrative the typical views afforded to walkers.	Receptor sensitivity: High (Well used footpath) Landscape Sensitivity: Medium and Local
View 3: PRoW 5/26 as it heads north towards the Pelham Road	**Direction of view:** North **Distance to nearest site boundary:** Within the Site **Elevation:** 126 AOD **Grid reference:** TL 46113 28652	Walkers	Illustrative the typical views afforded to walkers.	Receptor sensitivity: Medium High (Well used footpath) Landscape Sensitivity: Medium and Local

Table 3: Representative Viewpoints				
Viewpoint and Location	**Distance from site** **Elevation**	**Visual receptors**	**Reason for choice**	**Landscape and visual receptor sensitivity**
View 4: From PRoW 5/22	**Direction of view:** Northwest **Distance to nearest site boundary:** 118 m **Elevation:** 122 m AOD **Grid reference:** TL 46520 28716	Walkers and adjacent residential property at the base of the water tower.	To illustrate the change of view to walkers and the adjacent residential property.	Receptor sensitivity: High (Well used footpath) High (Residential Property) Landscape Sensitivity: Medium and Local
View 5: PRoW 5/21 as it passes through the Site	**Direction of view:** West **Distance to the site:** Within the Site **Elevation:** 111 m AOD **Grid reference:** TL 46174 29182	Walkers	Illustrating the change of view to walkers as they pass through the Site	Receptor sensitivity: High (Well used footpath) Landscape Sensitivity: Medium and Local
View 6: Field Gate on The Street by Easingwell Pond	**Direction of view:** West **Distance to the site:** 250 m **Elevation:** 108 m AOD **Grid reference:** TL 46842 29212	Users of the lane, including walkers	Illustrating how the view may change, including from the environs of nearby residential properties on The Street.	Receptor sensitivity: Medium (lane), High (residents). Landscape Sensitivity: Medium and Local

Table 3: Representative Viewpoints				
Viewpoint and Location	**Distance from site** **Elevation**	**Visual receptors**	**Reason for choice**	**Landscape and visual receptor sensitivity**
View 7: The southern end of The Street near the Crump (SAM) and a residential property	**Direction of view:** West **Distance to nearest site boundary:** 354 m **Elevation:** 120 m AOD **Grid reference:** TL 46919 28893	Users of the lane including walkers and residents	Illustrating how the view may change, including from the environs of a nearby residential property on The Street.	Receptor sensitivity: Medium (lane), High (residents). Landscape Sensitivity: Medium and Local
View 8: PRoW 5/21 as it leaves the edge of Berden	**Direction of view:** Southwest **Distance to the site:** 245 m **Elevation:** 104 m AOD **Grid reference:** TL 46766 29363	Walkers	Illustrating the likely change of view to walkers and to the environs of a residential property. Illustrates the impact on the setting of the village.	Receptor sensitivity: High (Well used footpath) High (Residential property). Landscape Sensitivity: Medium and Local
View 9: Footway adjacent to dwellings at Benskins, on the western edge of Berden	**Direction of view:** South **Distance to nearest site boundary:** 48 m **Elevation:** 113 m AOD **Grid reference:** TL 46430 29747	Residents of single storey dwellings Road and footpath users	Illustrating the change in view to residents and road users.	Receptor sensitivity: Medium (Local road and footway) High (Residential property). Landscape Sensitivity: Medium and Local

Table 3: Representative Viewpoints				
Viewpoint and Location	**Distance from site** **Elevation**	**Visual receptors**	**Reason for choice**	**Landscape and visual receptor sensitivity**
View 10: The Pelham Road where it is met by PRoW 5/62, also the location of the existing farm access	**Direction of view:** Southeast **Distance to nearest site boundary:** 11 m **Elevation:** 114 m AOD **Grid reference:** TL 46172 29672	Walkers, and road users	To illustrate the change in view to those passing the site along Pelham Road.	Receptor sensitivity: Medium Landscape Sensitivity: Medium and Local
View 11: The Pelham Road east of View 10.	**Direction of view:** Southwest **Distance to nearest site boundary:** 11 m **Elevation:** 112 m AOD **Grid reference:** TL 45913 29565	Road users	To illustrate the change in view to those passing the site along Pelham Road.	Receptor sensitivity: Medium Landscape Sensitivity: Medium and Local
View 12: The start of PRoW 5/26 as it heads north from the Pelham Road.	**Direction of view:** North **Distance to nearest site boundary:** Within the site. **Elevation:** 113 m AOD **Grid reference:** TL 45994 29582	Walkers	One of the clearest views from high ground to the east from a long-distance trail.	Receptor sensitivity: High (Well used footpath) Landscape Sensitivity: Medium and Local
View 13: From Crabb's Lane on the eastern side of Stocking Pelham	**Direction of view:** East **Distance to nearest site boundary:** 180 m **Elevation:** 128 m AOD **Grid reference:** TL 45548 28973	Road	To illustrate the lack of inter-visibility between the village and the site.	Receptor sensitivity: Medium Landscape Sensitivity: Medium and Local

Table 3: Representative Viewpoints				
Viewpoint and Location	**Distance from site** **Elevation**	**Visual receptors**	**Reason for choice**	**Landscape and visual receptor sensitivity**
View 14: PRoW 5/29 which crosses slightly elevated ground south of the site	**Direction of view:** south **Distance to nearest site boundary:** 432 m **Elevation:** 116 m AOD **Grid reference:** TL 45761 29946	Walkers	To illustrate the likely change in view to walkers	Receptor sensitivity: High (Well used footpath) Landscape Sensitivity: Medium and Local
View 15: Chalk Lane (Byway Open to All Traffic, 10/50), a distant view northeast of the site.	**Direction of view:** East **Distance to nearest site boundary:** 2.7 km **Elevation:** 108 m AOD **Grid reference:** TL 48552 31349	Walkers	To illustrate the likely change in view to users of the lane from distant ground to the southeast. A similar view is afforded from parts of the lane leading to Rickling and Drover Lane, further to the east.	Receptor sensitivity: High (Well used BOAT) Landscape Sensitivity: Medium and Local

Discounted Views

5.1. There are no significant views from the following areas:

1) Stocking Pelham and land further to the east.

2) Land further east of High Street apart from high ground 2.8 km to the east in the vicinity of Drover Lane.

3) Land south of the southern boundary due to topography, tree and hedge cover.

4) Land to the north beyond the B1038 due to topography, tree and hedge cover. There are no views from the B1038.

5) Berden Priory, due to topography, tree and hedge cover.

6) Berden, due to topography, tree and hedge cover.

5 THE PROPOSED DEVELOPMENT

Construction and Layout

5.1. The Proposed Development involves construction of the following:

1) Installation of approximately 91,584 photovoltaic solar panels mounted on tables which will have a front edge at around 0.9m above ground and the rear edge 2.5m (a twenty-degree slope). Rows will run west to east, following the existing contours of the ground with the panels facing south. Spacing between rows will vary between 7.9m and 9.8m, depending on topography.

2) Ten inverter units distributed among the panels and accessed via a combination of existing and proposed farm tracks (formed from crushed stone). Inverter units are typically the size of standard shipping containers.

3) A small substation protected with a palisade fence will be built in the southwest corner, adjacent to the battery storage facility. It will be accessed via the internal track network from the main access to the solar farm on the Pelham Road.

4) Deer fencing around each field to exclude large mammals and humans from the facility. Gates to allow the passage of small mammals such as badgers and foxes will be provided at intervals along the fence (but not within the sections of fence alongside PRoW to prevent dogs passing through the fence).

5) Existing footpaths will be retained along their same routes, typically within corridors 10 – 15 m wide between existing hedge lines and the proposed deer fence. A hedge will be planted in front of the deer fence to reduce the visual impact of the solar farm from view, reducing the corridor by 3 m (allowing for growth of the hedge).

6) It will be necessary to widen the bellmouth to the Pelham Road access by approximately 5m. The gate will be set 17m back from the edge of carriageway to allow an HGV to turn in without waiting for the gate to be opened This 17 m section will have a tarmac or concrete surface. The Agricultural plant will head east on entering the Site and run parallel to the Pelham Road until the open, undeveloped part of the field is reached. A 10 m wide grass corridor will be retained for this purpose (and does not form part of the Site). The deer fencing, forming the northern edge of the solar farm, will be set around 32 m back from the edge of Ginns Road, with the panels between 5 m and 20 m beyond. Construction and maintenance traffic for the solar farm will turn west on passing through the deer fencing.

7) New hedges and copses will be planted to provide additional screening to the Proposed Development.

5.2. The landscape masterplan is presented in Figure 7 (Appendix B) and the elevations of the equipment are presented in Figure 8 (Appendix B).

Site location and design evolution

5.3. The main driver for location the solar farm at this location is its proximity to the existing Pelham Substation. In addition, the Site is already afforded a high degree of visual enclosure with the opportunity of providing additional screening that can become effective within a short timeframe, minimising its impact on the wider landscape.

5.4. A buffer of arable land has been left between the solar farm and the village of Berden to ensure that the setting of the village is protected. It is also proposed to plant a copse in the southeast corner to screen it from the properties in this area.

5.5. The scheme has been designed to maintain all PRoW along their existing alignments, within wide corridors (typically 10 m + between the perimeter deer fences). All fences will include gaps for small mammals to access the Site, such as foxes, badgers and rabbits.

Landscape mitigation strategy

5.6. Visual analysis indicates that the proposed solar farm will be well screened by existing tree and hedge cover which lies to the south and west and to the east can be quickly screened by hedge. The most significant views will be from the Pelham Road and higher ground further north. For this reason, it is proposed to plant woodland buffers along the northern edge to augment the existing roadside tree cover and a new hedge which has recently been planted by the landowner. As well as the woodland planting some individual fast-growing trees have been specified to ensure the views from the north are screened as rapidly as possible. The public rights of way which will pass through the solar farm will be maintained on their current alignment, set within 10 m wide corridors, within which native hedge planting will screen the solar farm from view when in leaf (see inset). Tall stature trees will be planted where space and shading issues allow, while on other boundaries smaller stature species such as hawthorn and field maple will be planted. Scots Pine is specified around the northeast corner to reinforce screening in winter to the edge of the village. The proposed planting will leave a legacy of tree and hedge cover across the Site once the solar farm has been decommissioned.

5.7. The Proposed community woodland will be located between the residential properties on the Stocking Pelham Road on the edge of Berden and the proposed solar farm, which once established will block views of the solar farm and the existing substation and transmission lines which occupy the distant skyline.

5.8. A woodland will be planted to the southwest of Berden to protect the setting of the village and screen the solar farm from the PRoW as they leave the village.

5.9. The slight north facing slope means that the panels will be spaces sufficiently far apart, which combined with the short solar farm grass mix, will provide good nesting opportunities for skylark nesting. A species rich meadow will be established on 2.7 hectares of arable land to the east of the proposed solar farm as a permanent habitat which will also benefit the skylarks. Species rich grassland will be specified around the margins.

Timescales for the proposed mitigation to become effective

5.10. The main mitigation proposed is the planting of native hedgerows. Since these will be planted in arable soil there is the expectation that the plants will be able to establish quickly. Typically, limited growth is experienced in the first three years but between 4 and 7 years, growth can be rapid (subject to weather conditions). It will be necessary to trim the hedges during this growth period to establish a densely branching form which will ensure a solid screen when the hedge is in leaf and adequate screening in winter. Therefore, it is likely to take up to 8 - 10 years before the hedges have established a dense 2.5 – 3 m high structure.

5.11. The woodland planting will provide a screening function within a similar time frame but, it will take over fifteen years before if forms an adequate screen to those crossing the high ground to the north. The individual tree planting on the northern edge includes a fast-growing poplar species which gains height quickly before forming a broad crown. This makes it an ideal screening tree for the northern edge and should significantly reduce views of the solar farm from the land to the north within an acceptable timeframe.

6 IMPACT ASSESSMENT

6.1. The landscape impact assessment is assessed using the criteria set out in Appendix A.

Potential Impacts

6.2. Once operational the main features of the Proposed Development which could potentially result in landscape and visual impacts are:

- Changes to land use;
- Introduction of additional electrical infrastructure in the local landscape, reinforcing this negative impact of landscape character, and
- Introduction of new hedges and woodland blocks which will reinforce this positive aspect of landscape character.

Landscape and Visual Impact during Construction

6.3. Construction activities associated with solar farms typically do not have a high visual impact because the plant used is typically not significantly greater than farm machinery. The main visual impact arises from vehicles delivering to the Site and plant working on the Site, typically small scale. Visual impact then gradually increases during the construction period as more and more panels are installed, reaching maximum landscape visual impact once operational, before the landscape mitigation has time to be effective.

Landscape and Visual Impacts during Operation

Impact on Topography and Watercourses

6.4. The tables supporting the panels will be mounted on pile driven legs which will follow the existing contours of the Site. The tracks will also follow the existing contours. The existing ditch network draining the Site will be retained. The effect of the Proposed Development on Topography will be Negligible.

Mitigation and residual impact

6.5. Negligible, no mitigation required.

Impact on trees and hedgerows and other landscape features

6.6. No trees or hedges will need to be removed to build of the solar farm.

Mitigation and residual impact

6.7. It is proposed to plant 3.25 km length of native hedgerow, 190 standard trees and 3.4 hectares of new woodland. Overall, the effect on tree and hedgerow cover will be Minor beneficial during operation and Moderate beneficial on decommissioning.

Impact on landscape character of the Site

6.8. The landscape character of the Site is of Medium sensitivity and the magnitude of change will be High once the solar farm has been built out. This will result in a Moderate to Major adverse effect.

Proposed mitigation and residual impact

6.9. The hedgerow and woodland planting will reduce the visibility of the panels within the Site to a certain degree, reducing the impact on its landscape character to Moderate adverse.

Impact on the landscape character of the wider upland farmland landscape character areas

6.10. The proposed development will only have a visual influence on a small area of the wider countryside (in the vicinity of Chalk Pit Lane) and this area is fairly distant and views will be glimpsed. Therefore, visually

it will only have a Minor adverse effect on the wider character area. It will, however, increase the amount of electrical infrastructure within the area (a perceptually negative characteristic) and so intrinsically it will also have a Minor adverse effect.

Visual impact

6.11. The visual impact for each key view is assessed below using criteria set out in Appendix A. The location of each viewpoint is plotted on Figure 8 and photographs taken from each viewpoint are presented in Figure 9 (Appendix B).

View 1: The Pelham Road as it heads east out of Stocking Pelham

The existing view

6.12. This is the first view of the Site when heading east from the village of Stocking Pelham. Prior to this point views are blocked by intervening trees and hedges, even in winter. Part of the Site is visible through a gap in the hedge which runs alongside the access to the Pelham Substation. The Site appears as an open rural field with a hedge on the far side of the field forming the skyline.

Predicted changes to the view without mitigation

6.13. Solar panels will be seen side on through the gap in the hedge and through the perimeter deer fencing, but the first panels will be set 35 m back from the edge of the field. The proposed permissive path will pass through the gap between the hedge and the fence to run parallel to the road as far as Berden.

6.14. The sensitivity of users is Medium and the magnitude of change is Medium in winter and summer, resulting in a Moderate adverse effect in winter and summer.

Mitigation and assessment of residual impact

6.15. It is proposed to plant a native hedge set 2 m out from the deer fence to screen the proposed solar farm. Once established the hedge will be managed at a winter cut height of 3 m and 3 m wide at the base.

6.16. Once established the hedge will screen the solar farm from view in summer, resulting in a Negligible impact on visual amenity. In winter it will be possible to glimpse the panels and fencing through the leafless branches (a Low magnitude of change), resulting in an adverse effect of Minor significance.

View 2: PRoW 5/27 as it heads north along the access drive to the Pelham Substation

The existing view

6.17. This PRoW heads south from the Pelham Road, along the tarmac access road to the Pelham Substation. A hedge runs along the eastern edge, but several large gaps afford views through to the Site, such as this one. It is a rural view which is curtailed by rising ground and hedge cover to the east and south. There are wider, but not extensive, views over the valley to the north.

Predicted changes to the view without mitigation

6.18. The solar panels will be visible through the gaps in the hedge, typically set back 15 – 25 m from the exiting hedge and seen through the deer fencing.

6.19. The sensitivity of walkers is High and the magnitude of change is High (when walking sequentially along the PRoW) in winter and Medium in summer, resulting in a Major adverse effect in winter and Moderate – Major in summer.

Mitigation and assessment of residual impact

6.20. It is proposed to plant a native hedge set 2 m out from the deer fence to screen the proposed solar farm. Once established the hedge will be managed at a winter cut height of 3 m and 3 m wide at the base.

6.21. Once established the hedge will screen the solar farm from view in summer, resulting in a Negligible impact on visual amenity. In winter it will be possible to glimpse the panels and fencing through the leafless branches (a Low magnitude of change), resulting in an adverse effect of Minor significance.

View 3: PRoW 5/26 as it heads north towards the Pelham Road through the Site

The existing view

6.22. PRoW 5/27 terminates at the boundary of the substation, joining with PRoW 5/25 which heads east to join with PRoW 5/26. Views towards the Site from PRoW 5/25 are very restricted by a substantial intervening hedgerow, even in winter. PRoW 5/26, however, heads south, first affording clear views over the Site, as at this point, and then it continues through the Site until it meets Ginns Lane.

Predicted changes to the view without mitigation

6.23. The solar farm will be visible in the foreground, with the panels facing the viewer when heading north, seen through the deer fence. Walkers will then continue through the solar farm within a corridor flanked to the east by an existing hedge and the deer fence of the proposed solar farm set around 12 m from the hedge.

6.24. The sensitivity of walkers is High and the magnitude of change is High in winter and summer resulting in a Major adverse effect on visual amenity.

Mitigation and assessment of residual effect

6.25. It is proposed to plant a native hedge set 2 m out from the deer fence to screen the proposed solar farm. Once established the hedge will be managed at a winter cut height of 3 m and 3 m wide at the base, leaving a 7 m wide grass corridor for the PRoW.

6.26. Once established the hedge will screen the solar farm from view in summer, resulting in a Minor effect on visual amenity (due mainly to the loss of openness). In winter it will be possible to glimpse the panels and fencing through the leafless branches (a Medium magnitude of change), resulting in an adverse effect of Moderate - Major significance.

View 4: From PRoW 5/22

The existing view

6.27. This view illustrates the relationship between the residential property, water tower and the Site. The Site lies behind the hedge and is not visible, even in winter. A small part of the Site becomes visible through gaps in the hedge as walkers on the footpath head north. There are a few other residential properties along the lane to the southeast of this viewpoint but their views towards the Site are blocked by hedge and tree cover.

Predicted change to the view without mitigation

6.28. The residential properties will not afford views of the solar farm from within the dwellings or their immediate environs. The sensitivity of the viewer is High, and the magnitude of change is Negligible resulting in a Negligible adverse effect on visual amenity, winter and summer. Users of the PRoW will be able to glimpse some panels resulting in a Moderate adverse effect on visual amenity (winter and summer).

Mitigation and assessment of residual effect

6.29. It is proposed to plant a block of woodland within the southeast corner of the Site to ensure there is spatial and visual separation between the solar farm and the nearby residential properties. Tree planting will be undertaken to close of gaps in the hedgerow to screen the panels from walkers.

6.30. The effect of the Proposed Development on visual amenity will be Negligible.

View 5: PRoW 5/21 as it passes through the Site

The existing view

6.31. This footpath heads east from PRoW 5/26, passing through the Site. The view has been chosen to illustrate the change in view to walkers as they pass through the Proposed Development.

Predicted change to the view without mitigation

6.32. Solar panels will occupy the field to the left of the existing hedge and within the field in which the footpath runs. Deer fencing will be erected around 11 - 13 m from the edge of the existing hedgerow within the field through which the footpath runs and, in the adjacent field, 5 m beyond the hedge. The panels will lie 5 – 10 m beyond the deer fence.

6.33. The sensitivity of the viewer is High, and the magnitude of change is High in winter and summer resulting in a Major adverse effect on visual amenity, winter and summer.

Mitigation and assessment of residual effect

6.34. It is proposed to plant a native hedge set 2 m out from the deer fence to screen the proposed solar farm. Once established the hedge will be managed at a height of 3 m and 3 m wide at the base, leaving a 7 - 8 m wide grass corridor for the PRoW.

6.35. Once established the hedge will screen the solar farm from view in summer, resulting in a Minor adverse effect on visual amenity (mainly due to the loss of openness). In winter it will be possible to glimpse the panels and fencing through the leafless branches (a Medium magnitude of change), resulting in an adverse effect of Moderate – Major significance.

View 6: Field access on The Street by Easingwell Pond

The existing view

6.36. Views towards the Site from The Street are limited by the sunken nature of the lane and hedge cover, but this field gate affords a clear view across to the Site. The majority of the Site lies beyond the far hedge/tree line, but it is proposed to erect panels on the far side of the foreground field. The field has a significant dip to it, falling to the west, and so most of the field which comprises the Site is screened from view. There are some residential properties along the lane, but their views are restricted by intervening garden and hedge cover, but clearer views will be possible from west facing upper windows.

Predicted changes to the view without mitigation

6.37. The majority of the solar farm will be screened from view, but it will be possible to glimpse the tops of some of the panels on the eastern edge. It will also be possible to see panels in the far field, through the gap in the tree cover.

6.38. The sensitivity of the viewer is High and the magnitude of change Medium in winter and summer, resulting in a Moderate adverse effect on visual amenity in Summer and winter.

Proposed mitigation and residual effect

6.39. It is proposed to plant a native hedge and woodland between the proposed solar farm and the PRoW which crosses the field in the foreground. As well as screening the solar farm to users of the PRoW it will also screen it from this view. The residual impact will be Negligible in summer and adverse of Negligible/Minor significance in winter since it may be possible to glimpse some panels through the leafless branches.

View 7: The southern end of The Street near the Crump (a dwelling with a nearby Scheduled Ancient Monument of the same name

The existing view

6.40. Views from The Street and the dwelling The Crump, remain restricted by hedge banks, but this open field access on the corner affords a glimpsed view over the countryside towards the Site. The view is marred slightly by the overhead transmission line which crosses in the foreground. The closest part of the Site lies beyond a low hedge with gaps, within a dip in topography, and so is not particularly visible. Other parts of the Site are visible through gaps in the internal hedge and tree cover.

Predicted changes to the view without mitigation

6.41. The majority of the Proposed Development in the field closest to the viewer will lie in the dip, out of view, but upper edge of the southernmost panels will be visible above and between the bushes in the hedge with gaps. The panels will be clearly visible to users of PRoW 5/16 and 5/22 which cross the field in the foreground. Other areas of panels will be visible in more distant fields.

6.42. The sensitivity of the viewer is High and the magnitude of change Low to users of the lane and residents, but High to users of the PRoW which crops the fields. This will result in a Moderate adverse effect to users of the lane and Major adverse to users of the PRoW, both in summer and winter.

Proposed mitigation and residual effect

6.43. It is proposed to plant a native hedge on the far side of the existing hedge with gaps, and along the eastern edge of the solar farm. This planting will, once established to a height of 2.5 m, screen the panels within the field closest to the viewer. The internal hedges within the Site will be strengthened with new planting and new hedges will be planted alongside the PRoW. Once established this planting will screen the Proposed Solar Farm from view.

6.44. The residual effect to users of the lane will be Negligible in summer and Minor adverse in winter. To users of the PRoW which cross the fields the effect will be Minor adverse in summer and Moderate adverse in winter.

View 8: PRoW 5/21 as it leaves the edge of Berden

Existing View

6.45. The village of Berden benefits from substantial tree and hedge cover within and on the edge of the village and so there are no views of the Site from within the village. This point offers the first glimpse of the Site on heading west out of the village. The view is across an arable field, part of which forms the Site, but the majority of this area lies out of sight in a dip. Tree cover screens the majority of the Site from view with only a small area visible through a gap in the tree line.

Predicted changes to the view without mitigation

6.46. The majority of the panels in the foreground field will lie out of Site within the dip, but the upper section of some panels will be visible, particularly as the dip weakens to the north, with the northernmost panels being clearly visible. The PRoW switches to the north side of an established hedge as it passes closest to the panels, allowing only glimpsed views in winter.

6.47. The sensitivity of walkers is High and the magnitude of change Medium, resulting in a Moderate – Major adverse effect on visual amenity.

Proposed mitigation and residual effect

6.48. It is proposed to plant a hedge and a block of native species woodland between the proposed solar farm and the footpath which crosses the field and this footpath. Once established the hedge and woodland will screen the solar farm from view, resulting in a Negligible effect on the visual amenity of users of the footpath network in summer and winter.

View 9: Footway adjacent to dwellings at Benskins Close, on the western edge of Berden

Existing View

6.49. The dwellings are single storey and views are limited from within by garden vegetation. The environs afford limited views over the open countryside and the Site. The upper section of the Pelham Substation is visible and the transmission lines which radiate from it. The recently built battery storage facility is also visible, although this will eventually be screened by landscaping.

Predicted changes to the view without mitigation

6.50. The proposed solar farm occupy the part of the field which lies to the west of the properties but will stop short of the area of field in front of the properties to maintain their rural outlook. A hedge has recently been planted along the Stocking Pelham road (the rabbit guards are just visible in the photograph), and this will screen the remainder of the proposed development from view in summer. In winter it may be possible to glimpse areas of panels through the leafless branches, sensitivity is High and the magnitude of change Low, resulting in an adverse effect of Moderate significance.

Proposed mitigation and residual effect

6.51. A native species hedge will be planted along the eastern boundary of the solar farm to act as a second layer of screening to the hedge recently planted along the road. The first hectare of the field beyond the road edge will be planted up with native trees to form a community woodland. It will include some standard trees for early screening. The permissive footpath will access the wood from the highway and then pass run along the inside of the hedge, paralleling the road to Stocking Pelham.. Once established there will be a Negligible impact on visual amenity, in summer or winter. The planting will beneficially screen the line of transmission towers on the skyline.

View 10: The Pelham Road where it is met by PRoW 5/62, also the location of the existing farm access

Existing View

6.52. To those travelling along the Pelham Road, views of the Site are partially restricted by roadside vegetation and a slight bank. But gaps do allow some views to travellers. The landowner has recently planted a hedge alongside the road, which once established will block views of the Site in summer and only allow glimpsed views in winter.

Predicted changes to the view without mitigation

6.53. The existing farm access will be retained for agricultural use by the landowner, but it will be upgraded to form the main point of access to the solar farm. The gate will be set 17m back from the edge of carriageway to allow an HGV to turn in without waiting for the gate to be opened. This 17 m section will have a tarmac or concrete surface. Agricultural vehicles will head east on entering the Site and run parallel to the Pelham Road until the open, undeveloped part of the field is reached. A 10 m wide grass corridor will be retained for this purpose (and does not form part of the Site). The deer fencing, forming the northern edge of the solar farm, will be set around 32 m back from the edge of the Pelham Road, with the panels between 5 m and 20 m beyond. Construction and maintenance traffic for the solar farm will turn west on passing through the deer fencing.

6.54. Once the recently planted hedge along the road has established it will only be possible to see the solar farm in summer through the remodelled entrance. In winter it will be possible to glimpse the rear edges of the panels through the leafless branches. Sensitivity of road users is Medium and the magnitude of change in summer will be Low and Medium in winter, resulting in a Minor adverse effect in summer and Moderate in summer.

Proposed mitigation and residual effect

6.55. It is proposed to plant a block of woodland in front of the deer proof fence, which will be managed at a height of around 3 m. This will add a second layer of screening to road users which should effectively screen the solar panels from view in winter and summer. The entrance gate has been offset so that the view through the agricultural entrance will be blocked by the proposed hedge.

6.56. As a result, the effect on the visual amenity of road users will be Negligible in summer and winter.

View 11: The Pelham Road east of View 10.

Existing View

6.57. This view illustrates another long gap in the existing hedgerow cover along the Pelham Road, allowing views into the Site. The landowner has planted a hedge along the road and once this has established it will screen the Site from view in summer and only allow glimpsed views through the leafless branches in winter.

Predicted changes to the view without mitigation

6.58. The deer fence along the norther boundary will be set between 25 m and 55 m from the edge of the highway, but until the planted hedge has established, will be visible, with the panels behind. The sensitivity of road users is Medium, and the visual effect will be Medium, resulting in a Moderate adverse effect on visual amenity in summer and winter, declining to Negligible in summer and Minor adverse in winter once the existing hedge has established.

Proposed mitigation and residual effect

6.59. It is proposed to plant the space between the deer fence and the hedge alongside the road with woodland planting. This will ensure that the solar farm will be fully screened from view in winter and summer. The residual effect on the visual amenity of road users will be Negligible, winter and summer.

View 12: The start of PRoW 5/26 as it heads north from the Pelham Road

Existing View

6.60. The footpath runs along the west side of the hedge, through the Site. Currently it is a rural outlook but is substantially adversely influenced by the electrical infrastructure which is clearly visible on the skyline.

Predicted changes to the view without mitigation

6.61. A deer fence will be erected 15 m from the existing hedge, with the solar panels visible behind. Panels will also be erected on the east side of the hedge, but this broadens out into a 30 m wide block of woodland which will screen the panels from view. The sensitivity of walkers is High and the magnitude of change High, resulting in an adverse effect of Major significance.

Proposed mitigation and residual effect

6.62. It is proposed to plant a native species hedge in front of the deer fence which, once established at a height of 2.5 m, will screen the proposed solar farm from view in summer, with glimpsed views through the leafless branches in winter. The magnitude of change will reduce to Low in summer and Medium in winter, resulting in a Moderate residual effect in summer and Moderate-Major adverse in winter.

View 13: From Crabb's Lane on the eastern side of Stocking Pelham

Existing View

6.63. This view has been chosen to illustrate the lack of visibility between the village of Stocking Pelham and the Site. Views towards the Site are only possible from the few field gateways, but views of the Site are blocked by intervening tree and hedge cover, even in winter. Planning application 3/22/0806/FUL Stocking Pelham BESS is awaiting determination and will occupy the field to the south of this field (right). It comprises an acoustic barn housing inverters and external batteries.

Predicted changes to the view without mitigation

6.64. The Proposed Development will be screened from view. There will be no visual effect to users of the lane or from within the properties along the lane. There will be no cumulative visual effect with the proposed BESS because it will not be possible to see the proposed solar farm.

6.65. The sensitivity of the viewer is High and the magnitude of change No change, resulting in no visual effect.

Proposed mitigation and residual effect

6.66. A hedge will be planted along the west side of the solar farm, ensuring that it remains fully screened for the long term and in the control of the applicant.

View 14: PRoW 5/29 which crosses slightly elevated ground south of the site

Existing View

6.67. This PRoW crosses open elevated ground on the far side of the valley that lies to the north of the Site. The Site is visible through the gaps in the intervening hedges, although the view is marred by the overhead transmission lines which occupy the skyline. The battery storage facility can be glimpsed just beyond the southwest corner of the Site, seen set against the backdrop of the Pelham substation.

Predicted changes to the view without mitigation

6.68. The panels will be visible between the gaps in the vegetation but will be seen from the rear where they will appear less prominent. The sensitivity of the viewer is High and the magnitude of change Medium, in summer and winter, resulting in an adverse effect of Moderate – Major significance, summer and winter

Proposed mitigation and residual effect

6.69. It is proposed to plant a block of woodland along the northern edge of the solar farm, up to 50 m in width. This will eventually screen the solar farm from view, but it may take 10 – 15 years to do so fully.

6.70. Once effective the residual effect on visual amenity will be Negligible in summer and winter.

View 15: Chalk Lane) (BOAT, 10/50), a distant view northeast of the site.

Existing View

6.71. This is one of the few publicly accessible views from the landscape to the northeast of the Site. The majority of Chalk Lane runs between two hedgebanks, preventing views over the wider landscape, but a short section at this location crosses elevated open ground before soon dropping down into a valley where views are lost. The Site is visible as a thin sliver on the horizon, but the horizon and view is dominated by the electrical infrastructure which radiates from the substation.

Predicted changes to the view without mitigation

6.72. The panels will be visible as a thin sliver in the distance but seen from the rear they will appear as a dull grey tone and will not be particularly prominent.

6.73. The sensitivity of the viewer is High and the magnitude of change Low resulting in a Minor adverse visual effect.

Proposed mitigation and residual effect

6.74. All of the proposed tree and hedge planting will reduce the visual effect of the Proposed Development, but particularly the woodland planting along the northern edge, which will eventually almost screen it entirely from view. The residual effect once the woodland has established will be Negligible, but it will take 10 – 15 years to achieve this.

Summary of visual effect

6.75. Table 5 summaries the predicted levels of visual effect before and after mitigation. Major effects which might cause concern are highlighted in red, although these are experienced by people walking along the public footpaths which pass through the proposed solar farm and so major adverse effects are to be expected. The proposed mitigating hedge planting will typically reduce these effects to moderate adverse (orange shading) in winter and minor adverse (green shading) in summer (the latter based on the fact that while the hedges will screen the panels from view, there will be a loss of openness).

6.76. The proposed solar farm will not result in any significant adverse effects on the visual amenity of residents since no properties are close to or will significantly overlook the proposed solar farm and any views will eventually be screened by the hedge planting.

6.77. The most significant views will be afforded to those travelling along the Pelham Road as it passes the Site and walkers crossing the high ground to the north. A hedge has recently been planted along the Pelham Road which will substantially screen any views of the panels from the road, and this will be augmented with linear blocks of woodland. This woodland will eventually screen the proposed development from the high ground to the north, although it will take 15+ years to be fully effective.

6.78. The Proposed Development will be partially visible from a small area of countryside to the northeast in the vicinity of Chalk Pitt Lane and Drover Lane but will be seen as a thin sliver of grey within a wide panorama with the existing transmission lines and substation forming a skyline backdrop.

6.79. It is concluded that the proposed development will not be particularly visible from the wider landscape and that these effects can be adequately mitigated. The only significant visual effects will be confined to those using the PRoW network that passes through the proposed development. The likely extent of countryside from where the Proposed Development is likely to be visible is summarised on Figure 14 (Appendix B).

Table 5: Summary of Visual Effects

Viewpoint and Location	Visual receptors	Visual effect with no mitigation	Mitigation and visual effect once mitigation effective
View 1: The Pelham Road as it heads east out of Stocking Pelham	Road users	Moderate adverse in summer and winter	Woodland and hedge planting Negligible in summer, Minor adverse in winter
View 2: PRoW 5/27 as it heads north along the access drive to the Pelham Substation	Workers Walkers	Moderate-Major adverse effect in summer Major adverse in winter	Hedge planting Negligible in summer Minor adverse in winter
View 3: PRoW 5/26 as it heads north towards the Pelham Road	Walkers	Major adverse summer and winter	Hedge planting Minor adverse in summer Moderate-Major adverse in winter
View 4: From PRoW 5/22	Walkers	Moderate adverse winter and summer	Tree and hedge planting Negligible
View 5: PRoW 5/21 as it passes through the Site	Walkers	Major adverse winter and summer	Hedge planting Minor adverse in summer Moderate to Major adverse in winter
View 6: Field Gate on The Street by Easingwell Pond	Road users	Moderate adverse in summer and winter.	Hedge planting Negligible in summer Minor adverse in winter
View 7: The southern end of The Street near the Crump (SAM) and a residential property	Residents and road users	Moderate adverse winter and summer	Hedge planting Negligible in summer Minor adverse in winter

Viewpoint and Location	Visual receptors	Visual effect with no mitigation	Mitigation and visual effect once mitigation effective
View 8: PRoW 5/21 as it leaves the edge of Berden	Walkers	Moderate-Major adverse in winter and summer	Woodland and hedge planting Negligible in winter and summer
View 9: Footway adjacent to dwellings at Benskins Close, on the western edge of Berden	Residents and users of the footway and road	Moderate adverse	Woodland and hedge planting Negligible in winter and summer
View 10: The Pelham Road where it is met by PRoW 5/62, also the location of the existing farm access	Road users	Minor adverse in summer Moderate adverse in winter	Hedge planting Negligible in summer Minor adverse in winter
View 11: The Pelham Road east of View 10.	Road users	Moderate adverse in summer and winter	Negligible in summer and winter
View 12: The start of PRoW 5/26 as it heads north from the Pelham Road.	Walkers	Major adverse summer and winter	Hedge planting Moderate adverse in summer Moderate- Major adverse in winter
View 13: From Crabb's Lane on the eastern side of Stocking Pelham	Users of the lane and residential properties	No effect	No effect
View 14: PRoW 5/29 which crosses slightly elevated ground south of the site	Walkers	Moderate - Major in summer and winter	Woodland and hedgerow planting Negligible in summer and winter
View 15: Chalk Lane) (BOAT, 10/50), a distant view northeast of the site and the landscape extending to the east in the vicinity of Drover Lane.	Users of the BOAT	Minor adverse, summer and winter	Woodland planting Minor/Negligible

Effect on designated heritage assets

6.80. The effect of the Proposed Development on heritage assets is set out in the Heritage Statement (RPS).

Lighting Effects

6.81. No lighting is proposed as part of the development apart from emergency bulkhead safety lighting to some of the infrastructure which will only be used on the rare occasions the facility might need a maintenance visit outside of daylight hours. The CCTV security system works on infrared technology.

7 Cumulative effects

Introduction

6.82. Cumulative effects result from additional changes to the landscape or visual amenity caused by the Development in conjunction with other developments (associated with or separate to it), actions that occurred in the past, present or are likely to occur in the foreseeable future. Cumulative landscape effects may occur to the landscape components e.g. loss of hedgerows or landscape characteristics by introducing new features. Cumulative visual effects may occur where one development is viewed in combination (static views of up to 90-degree arc), successively (turning around on the spot) or sequentially where the user moves along routes, roads or paths with one or more development evident.

Other potential developments which may have a cumulative effect

6.83. Three potential solar farms are currently proposed in addition to this application and are at various stages through the planning process and so may or may not be realised as schemes. Nevertheless, the potential cumulative effect of the schemes is assessed. The schemes are:

- UTT/21/3356/FUL - Land Near Pelham Substation Maggots End Road Manuden (consent currently refused);
- UTT/21/0688/FUL- Land At, Cole End Farm Lane, Wimbish (awaiting determination), and
- UTT/21/2846/FUL- Chesterford Park, Little Chesterford, Essex (awaiting determination).

6.84. The Cole End Farm site lies 12.6 km to the northeast of Stocking Pelham and the Chesterford Business Park lies 14.39 km to the northeast. There is no intervisibility between these proposals and this Proposed Development. None of the proposals are visible from the major road network and so there will be no sequential cumulative effects as people travel through the surrounding landscape. The schemes are also sufficiently distant from Stocking Pelham that there will be no perceived cumulative effects on landscape character. It is concluded that there will be no landscape or visual cumulative effects arising from these two proposals, should they and this Proposed Development be built out.

6.85. One BESS is proposed:

- 3/22/0806/FUL Stocking Pelham BESS, East Herts District Council, Battery storage system adjacent to the Site

6.86. No other large scale industrial or infrastructure developments have been identified in the locality.

Visual cumulative effects

6.87. This scheme at Maggots End Road lies just 478 east of the Site at its closest, but the majority of this solar farm lies to the south of the Site. Its extent and its relationship with this Proposed Development is illustrated on Figure 13.

6.88. Overall, there will be no direct intervisibility between the two schemes because the Maggots End Road scheme will occupy a gentle south facing slope, while the Proposed Development will occupy a gentle north facing slope, with a strong band of tree and hedge cover running along the ridge between the two.

6.89. The only location where there may be some potential in direct inter-visibility between the two schemes is at Viewpoint 7 within this report (Viewpoint 8 within the Pelham Spring Solar Farm Landscape and Visual Effect Assessment, Pegasus 2021). The viewer would have to look in opposite directions to see the two proposed solar farms and both views would be through gaps in the roadside hedge with each solar farm largely screened by intervening hedgerows. The Pegasus report assess the visual effect of the Maggots End Road scheme from this location as Minor adverse declining to Negligible once mitigation is effective. This report assesses the visual effect of the Proposed development to be Moderate adverse declining to Negligible in summer and Minor adverse in winter. Therefore, it is concluded that the overall indirect cumulative effect will be Negligible.

6.90. There will be some sequential cumulative visual effects as people move through the landscape by roads and PRoW. The only road where such effects will be experienced is from The Street as it continues south to a small hamlet at Brick House End, which is a no through road and so traffic use is very low. Users will only be able to glimpse the two solar farms from very few locations and both will be separated by intervening countryside. It is concluded that the sequential visual effects to road users will be Negligible.

6.91. There will be more significant effects to users of the PRoW network. The PRoW network in the area is extensive and certain stretches pass through both proposed solar farms. It is likely that approximately three square kilometres of the countryside through which the network passes will be visually influenced by the proposed solar farms without mitigation. Once the mitigation proposed for both schemes is effective, in summer the cumulative effect will be at worst Minor adverse, mainly due to a loss in openness within the landscape as the screening mitigation blocks views. In winter there will be a greater perception of the solar farms beyond the leafless hedges and so there will be a Moderate adverse cumulative effect.

6.92. The battery electrical storage system proposed adjacent to the Site is awaiting determination. It will occupy a field on the west side of the access road to the existing Pelham Substation, separated from the Site and track by a mature hedge which includes trees. The batteries will be housed in containers within

a gravelled surface, but the inverters will be housed in a 6 metre high steel frame barn with metal cladding. In summer the existing vegetation is likely to screen the proposed development from the land to the east, which would be occupied by the proposed solar farm, but in winter it will be possible to glimpse the barn through the leafless branches, particularly when passing along the PRoW which runs up the access road. This will result in a visual adverse cumulative impact as walkers will pass between two, partially screened fields containing electrical infrastructure.

6.93. The landscape strategy for the Stocking Pelham BESS proposed planting a 5 m wide landscape buffer on the west side to reinforce the hedgerow along the Pelham Substation access track. This will, once established, screen the BESS from the PRoW. At the same time, similar planting associated with the Proposed Development will screen the proposed solar farm from view. Once the mitigation proposed for both schemes is effective, in summer the cumulative effect will beNegligible, mainly due to a loss in openness within the landscape as the screening mitigation blocks views. In winter there will be a greater perception of the infrastructure beyond the leafless hedges and so there will be a Minor adverse cumulative effect.

Landscape cumulative effects

6.94. The three developments, this application, the Maggots End Solar Farm and the Stocking Pelham BESS if consented, would increase the amount of electrical infrastructure within the locality, increasing the perception that the landscape is adversely dominated by electrical infrastructure due to the substation and recent battery storage facility. The driver for this is the proximity to the existing substation, which has already had an adverse effect on landscape character. The aggregation of electrical infrastructure around existing substations is a trend occurring throughout the UK with solar and battery storage schemes dominating the trend, with often multiple schemes around each substation. There is a benefit to this in that it concentrates such infrastructure within one area which is already affected by electrical infrastructure, taking the pressure off more pristine landscapes. The substations and the transmission lines that radiate from them are a national infrastructure asset and concentrating new infrastructure around such assets makes maximum use of it; an important consideration in relation to climate change.

6.95. Therefore, while the proposed development will have an adverse cumulative effect on the local landscape this must be weighed against wider landscape, infrastructure and climate change benefits.

8 POSSIBLE FUTURE CUMULATIVE EFFECTS

6.96. The area of field immediately to the north and east of the existing battery storage facility has been reserved for future electrical infrastructure by the landowner. No firm proposals are currently known and so they cannot be given any weight in this assessment. If, however, this proposed solar farm development is consented, the vacant land will be visually contained by the solar farm, the existing battery storage and the substation. Visually the cumulative effect will be restricted to short lengths of adjacent footpaths. In terms of landscape effects, this additional infrastructure, should it materialise, will represent a comparatively small amount of additional infrastructure within the locality and is unlikely to have a significant cumulative effect on landscape character.

9 DECOMMISSIONING

6.97. At the end of its operational life or as set by a planning condition, the solar farm will be removed including all fencing, piles and underground cabling and the access tracks (apart from those that will assist in the ongoing agricultural management of the land). The substation and inverters will be removed, and the land returned to agriculture. The trees, hedges and woodland planted as part of the development will be retained, forming a beneficial long-term legacy, enhancing landscape character, sequestering carbon and increasing ecological biodiversity.

10 CONCLUSION

9.1. It is concluded that while the Proposed Development will result in some adverse landscape and visual effects the significant effects will be confined to a relatively small area of countryside which is already significantly influenced by electrical infrastructure. Once mitigation is effective the effect to the majority of receptors will be either Negligible or Minor with only those using the footpaths which pass through the proposed solar farm experiencing Moderate adverse effects, largely due to winter views and the loss of the open character along the routes. While the effects will last for the operational life of the solar farm, they will be temporary, with the benefit of a legacy of increased tree and hedge cover across the Site. The adverse effects should be weighed against the benefits of providing renewable energy and achieving the target to miminise climate change.