

EAST STOUR SOLAR FARM

Environmental Statement Volume 1 - Non Technical Summary

PREPARED ON BEHALF OF



APRIL 2022



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PREFACE

This Non-Technical Summary forms the first part of a four volume Environmental Statement which describes the findings of the Environmental Impact Assessment (EIA) of the proposed East Stour Solar Farm. The volumes of the complete document are:

Document	Title	Contents
Volume 1	Non-Technical Summary	Summarises the proposal and the key conclusions of the EIA for the non-technical reader
Volume 2A	Written Statement	Presents the full assessments of the EIA
Volume 2B	Appendices	Presents the appendices referred to in the Written Statement
Volume 3	Figures	Presents the figures referred to in the Written Statement
Volume 4	Visualisations	Presents the visualisations referred to in the Landscape and Visual Impact Assessment (LVIA) within the Written Statement.

In addition to the Environmental Statement, the developer, EDF Renewables, has submitted a Planning Statement which summarises the planning policy context of the proposal as well as a supporting Socio Economics and Sustainability Statement.

A complete set of application documents can be viewed in person at Ashford Brough Council Offices at Ashford Borough Council, Civic Centre, Tannery Lane, Ashford, Kent TN23 1PL or downloaded from the project website, as detailed in the box below.

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East Stour Solar Farm

NTS Part A Contents

Introduction	3
Project Introduction (Chapter 1)	3
Development Rationale (Chapter 2)	4
Site Selection and Design (Chapter 3)	7
Environmental Impact Assessment (Chapter 5)	13
The Proposed Development (Chapter 6)	14
Construction, Operation and Decommissioning (Chapter 7)	19

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INTRODUCTION

- A.1 The Environmental Impact Assessment (EIA) for this project provides a thorough, independent and objective assessment of the proposal identifying its anticipated significant impacts.
- A.2 Part A of this Non-Technical Summary describes the elements that constitute a solar farm, the development process and the proposal itself.
- A.3 Part B summarises the findings of the EIA assessments.
- A.4 Please note that this document is a summary of the key issues and findings identified by the Environmental Impact Assessment. For full details of all the findings of the studies involved in the Environmental Impact Assessment of this project, as well as full details of the methodologies used in these studies, please refer to **Volume 2A, the Written Statement** (and the accompanying appendices, **Volume 2B**) and also **Volume 3 (Figures)** and **Volume 4 (Visualisations)**. Relevant **Volume 2** chapter numbers are provided within the section titles of this report.



PROJECT INTRODUCTION (CHAPTER 1)

- A.5 The East Stour Solar Farm proposal is for a fixed solar array, associated access tracks, inverter/transformer units, substations, welfare and storage cabinets/containers, boundary fencing with inward facing CCTV and ancillary infrastructure. In addition, a range of enhancement measures are proposed as part of the proposed development.
- A.6 The site is located on land south of the M20, to the west of Sellindge and north-east of Aldington. The location of the site is illustrated in **Figure 1.1, ES Volume 3**.
- A.7 The total solar array would have a rated capacity of up to 49.9MW. The

proposed operational lifetime of the project is 40 years.

- A.8 For the purposes of the Environmental Impact Assessment and the Environmental Statement, assessments of potential impacts of the solar farm have been based upon panel rows with a maximum height of 3.0m, at a tilt of approximately 20° and facing approximately south.
- A.9 'PV Syst Photovoltaic Software' Version V6.87 was used by the Applicant to predict that the solar farm will have a potential annual yield of approximately 69 600MWh.
- A.10 Hosting the East Stour Solar Farm would lead to a significant carbon dioxide emission reduction, helping to meet the National need.
- A.11 The Applicant for the East Stour Solar Farm is EDF Energy Renewables Ltd (EDF Renewables (EDF-R)). EDF Renewables is a joint venture between EDF Renewables Group (EDF's global renewable business) and EDF Energy (EDF's UK generation business).



DEVELOPMENT RATIONALE (CHAPTER 2)

Why Develop Renewable Energy?

- A.12 It is internationally accepted that global warming, and its association with climate change effects are a reality. Scientific opinion has converged on the appreciation that human activity; including the burning of fossil fuels, is rapidly changing the Earth's climate.
- A.13 The Intergovernmental Panel on Climate Change (IPCC) was set up in 1988 by the World Meteorological Organisation and the United Nations Environment Programme to: *'assess on a comprehensive, objective, open and transparent basis the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human induced climate change, its potential impacts and options for adaptation and mitigation'* (IPCC, 1998).
- A.14 In between the usual 5-7 year cycle of IPCC Synthesis studies, the IPCC were invited by the United Nations Convention on Climate Change to produce a special report, published in 2018, on the impacts of global warming of 1.5 degrees above pre-industrial levels contained in the Decision of the 21st Conference of Parties of the United Nations Framework Convention on Climate Change to adopt the Paris Agreement.
- A.15 Building upon the Fifth Assessment produced by Working Group 1 (2013), the report found with high confidence that global warming is likely to reach 1.5 degrees Celsius between 2030 and 2052 if it continues to increase at its current rate.
- A.16 The report then considered the difference between attempting to limit global warming to 1.5 degrees as opposed to 2.0 degrees as discussed in the Fifth Assessment.
- A.17 Whilst sea levels will continue to rise well beyond 2100, the slower rate of rise associated with a 1.5 degree increase enables greater opportunities for adaptation.
- A.18 Similarly climate-related risks to health, livelihoods, food security, water supply, human security and economic growth are all still predicted to increase with global warming of 1.5 degrees, but would increase further with global warming of 2.0 degrees.
- A.19 The Special Report received considerable attention internationally, particularly by the younger generation inspired by youth campaigner Greta Thunberg. The report has led to declarations of Climate Emergencies by nations, including the UK, and local authorities.
- A.20 Addressing the UN Climate Summit in New York on 23rd September 2019, Greta Thunberg said *'the eyes of all future generations are upon you. And if you choose to fail us, I say - we will never forgive you'* (Thunberg, 2019).
- A.21 Working Group 1 recently published their contribution to the Sixth Assessment Report (IPCC, 2021). One of their headline statements is that:
'Global surface temperature will continue to increase until at least the mid-century under all emissions

scenarios considered. Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in carbon dioxide (CO₂) and other greenhouse gas emissions occur in the coming decades.’

A.22 The latest annual UK weather and climate report, published in July 2021 (Kendon et al., 2021), found that:

‘Year 2020 was third warmest, fifth wettest and eight sunniest on record for the UK. No other year has fallen in the top-10 for all three variables for the UK.’

A.23 **Plate A.1** produced by the University of Reading (Hawkins, 2020) and using UK Met Office Data illustrates the average annual UK temperature since 1884. Blues represent cool average temperatures, and reds represent warm average temperatures. The increase in average annual temperature is abundantly clear.

Climate Change Policy

A.24 The Paris Agreement (adopted in 2015) is arguably the most significant UN Framework Convention on Climate Change agreement since Kyoto (1997).

A.25 In line with the IPCC Special Report discussed from **Paragraph A.14 on page 4**, the long-term temperature goal of the Paris Agreement is to limit the global average temperature rise to *‘well below 2 degrees Celsius above pre-industrial levels; and to pursue efforts to limit the increase to 1.5 degrees Celsius.’*

A.26 The UK Climate Change Act 2008 set a legal target for greenhouse gas emissions to be 80% lower than 1990 levels by 2050. On 27th June 2019, the Government formally amended that target as follows:

*‘It is the duty of the Secretary of State to ensure that the net UK carbon account for the year 2050 is at least **100%** lower than the 1990 baseline.’*

A.27 The targets within the Climate Change Act are set to be achieved through a series of rolling five year carbon budgets and associated interim targets.

A.28 The carbon budget is established by the Committee on Climate Change, an independent body formed under the Climate Change Act (2008) to advise the UK and devolved Governments

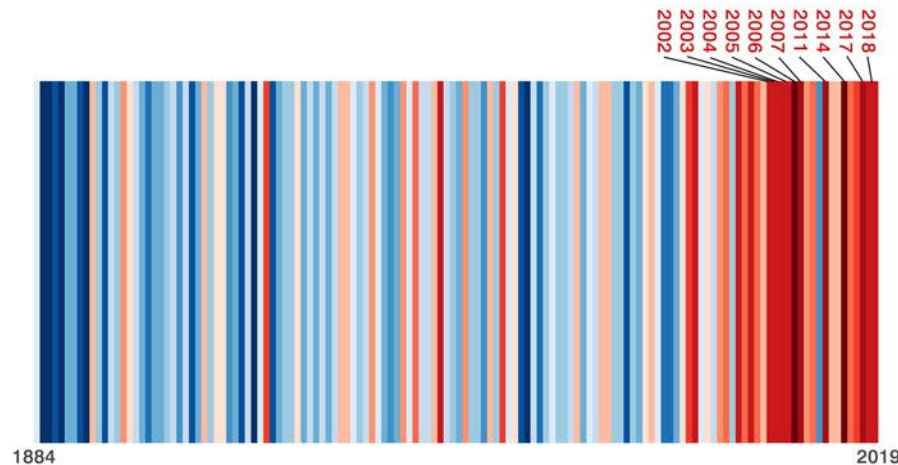


Plate A.1 - UK Annual Temperature (Hawkins, 2020)

and Parliaments on tackling and preparing for Climate Change.

- A.29 To set the path to Net Zero, the Climate Change Committee published 'Policies for the Sixth Carbon Budget and Net Zero' in December 2020 (CCC, 2020). The Committee state that this Sixth Budget is *'the most comprehensive advice we have ever produced'*. The Sixth Budget became law under the Carbon Budget Order 2021, on 24th June 2021, in advance of the UK hosting the 26th Climate Conference, COP26.
- A.30 As well as the most comprehensive, it is also their most ambitious. The recommended pathway requires a 78% reduction in UK territorial emissions between 1990 and 2035 – bringing forward the UK's previous 80% target by almost 15 years. Indeed, this meets the 'highest possible ambition' scenario of the Paris Agreement.
- A.31 The Climate Change Committee's Net Zero scenario expects 80% of electricity to be supplied by renewable energy, of which wind will contribute 125GW and solar 85GW.
- A.32 The United Kingdom was the first major economy to legislate for net zero emissions.
- ## Renewable Energy Policy
- A.33 The Planning Statement submitted in support of the application discusses the planning policy position in detail. However, it is important to note that policy in relation to renewable energy is derived in the context of the identified need to de-carbonise the energy system.
- A.34 The National Planning Policy Framework (NPPF) (MHCLG, 2021a) provides the current legal basis and guidance for determining planning applications.
- A.35 Ashford Borough Council is yet to formally declare a Climate Emergency. However, its strategies and policies do reflect the threat of Climate Change and the need to take action at a local and regional level.
- A.36 Ashford Borough Council has pledged to become carbon neutral by 2030 and is currently developing a Carbon Neutral Strategy to set out the actions required to achieve that ambition. The draft 'Ashford to Zero Plan: Our route to net zero carbon emissions' (2021) is currently under consultation.
- A.37 The proposed action plan has eight priorities, two of which are directly relevant to renewable energy generation projects:
- Priority 2 - Ensure the council's decision making processes, including those as the Local Planning Authority, strategic documents, plans and procedures contribute to reducing carbon emissions and increasing local resilience to climate change; and
 - Priority 3 - Reduce reliance on fossil fuels for energy generation by increasing renewable energy generation and consumption.
- A.38 In order to achieve this, Ashford Borough Council has set out two objectives:
- to increase the number of sites suitable for renewable energy generation; and
 - to increase local renewable energy generation.
- A.39 Ashford Borough also falls within the remit of Kent County Council's climate change action. Their Environment Strategy (2016) and accompanying Implementation Action Plan (2017) outline the need for 'additional low carbon and appropriate renewable energy infrastructure' within the County.



SITE SELECTION AND DESIGN (CHAPTER 3)

A.40 Specific guidance on renewable energy site design can be found in:

- National Planning Policy Framework (NPPF), (MHCLG, 2021a);
- National Planning Practice Guidance (NPPG), (MHCLG, 2021b - Online);
- National Policy Statements (DECC, 2011a & 2011b);
- Planning Guidance for the Development of Large-Scale Ground Mounted Solar PV Systems (Building Research Establishment (BRE), 2014a);
- Agricultural Good Practice Guidance for Solar Farms (BRE, 2014b);

- BRE National Solar Centre Biodiversity Guidance for Solar Developments (BRE, 2014c); and
- Natural England Technical Information Note 101: Solar Parks: Maximising Environmental Benefits (Natural England, 2011).

A.41 Through an iterative considered approach to site design that inherently mitigates potential impacts wherever possible, the proposed development complies with national policy and guidance.

A.42 Site selection and design criteria derived from National and Local planning policies and guidance documents can be categorised as environmental considerations, technical constraints, and needs of a renewable energy project. The constraints and design criteria considered for the proposed development are listed in **Table A.1 on page 8**.

A.43 EDF Renewables has followed a detailed site selection process that considered a range of environmental and technical constraints.

A.44 The East Stour Solar Farm was judged by EDF Renewables and the EIA

assessment team to be a location offering the prospect of a suitable balance of the site-specific features which render a solar development (with its associated environmental benefits) both technically and financially viable, and the need to keep any adverse environmental impact of such a development to an acceptable minimum.

A.45 As the Environmental Impact Assessment progressed, more information was assembled about the site and surrounding area. A detailed and iterative site design process was followed throughout, allowing mitigation to be incorporated within the design which evolved to avoid or reduce the significance of identified impacts at each stage of the development process as well as incorporating modifications to address comments received during the public consultation process.

Table A.1 - Site Selection and Design Parameters

Environmental Considerations	Technical Constraints	Project Needs
<ul style="list-style-type: none"> • Proximity to dwellings: <ul style="list-style-type: none"> – Noise; and – Visual impact. • Ecological/ Geological/ Historic/ Landscape Designations: <ul style="list-style-type: none"> – Ancient Woodlands; – Areas of Outstanding Natural Beauty; – National Nature Reserves; – National Parks; – Ramsar Sites; – Registered Battlefields; – Registered Parks and Gardens; – Scheduled Monuments; – Sites of Special Scientific Interest; – Special Areas of Conservation; – Special Protection Areas; and – World Heritage Sites. • Proximity to existing ecological features; • Agricultural Land Classification; • Landscape and Visual sensitivities; and • Historic Environment (including conservation areas and listed buildings). 	<ul style="list-style-type: none"> • Flood Risk; • Panel row spacing • Proximity to Utilities and Telecoms infrastructure; • Proximity to roads, railway, and Public Rights of Way; and • Glint/Glare. 	<ul style="list-style-type: none"> • Grid Connection; • Solar Resource (irradiation); • Access to site; • Capacity of site (land availability and existing use); and • Landowner agreement.

A.46 Key determinants of the final East Stour Solar Farm layout evolved through the iterative Environmental Impact Assessment Process and included:

- avoidance of flood risk areas;
- separation from immediately adjoining properties and provision of setbacks;
- separation from footpaths and removal of panels on the south-east of the site to minimise landscape character impacts;
- separation from utilities infrastructure, allowing panels under overhead lines on towers and implementing a setback from tower bases and overhead lines on wooden poles;
- separation from Backhouse Wood;
- set back of panels and infrastructure from highways for visual amenity;
- inclusion of tree and hedge planting and low density woodland as landscape mitigation; and
- inclusion of swales for surface water management.

A.47 The final proposed layout, is shown in **Plate A.2 on page 9** and **Figures 1.2 and 1.3 at ES Volume 3**.



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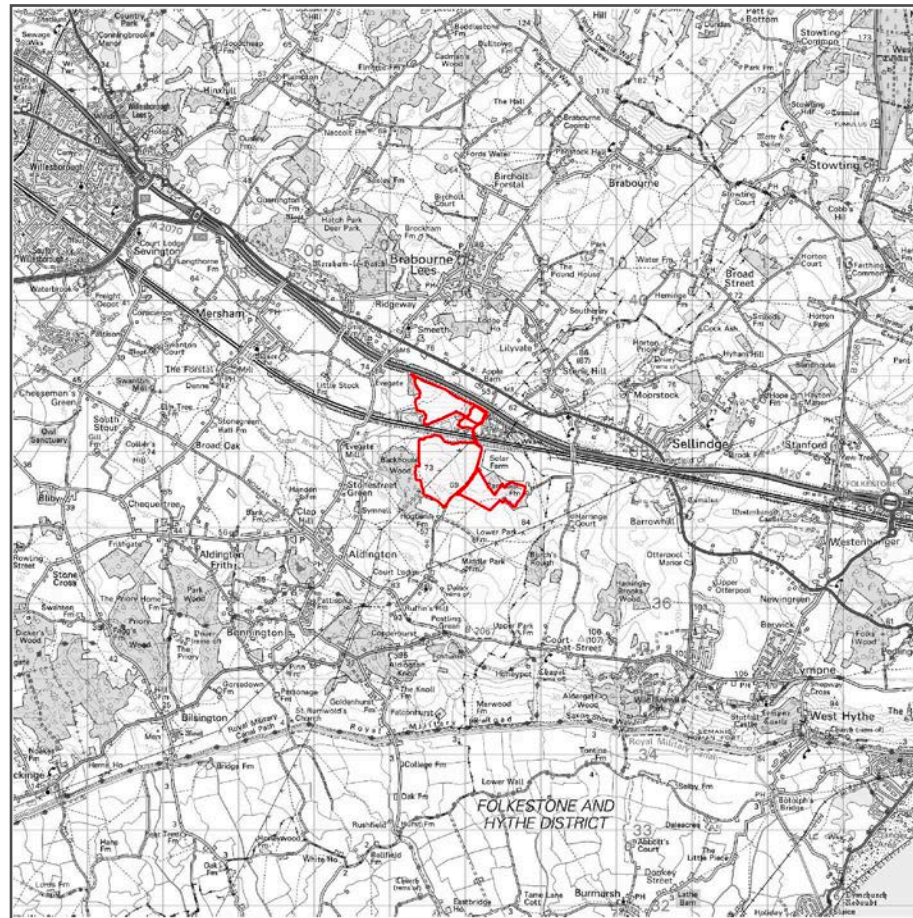
Plate A.2 - *Optimised Layout Determined through the EIA*



EXISTING CONDITIONS (CHAPTER 4)

A.48 The proposed development is located south of the M20 to the west of Sellindge, in Kent. The village of Aldington is approximately 1.3km south-west of the development boundary, and the village of Smeeth is approximately 400m to the north-west. The majority of the site is located in Aldington Parish Council, with the northern land parcel falling under Smeeth Parish Council. The location of the site is illustrated in **Plate 3** and **Figure 1.1** within **ES Volume 3**.

A.49 Existing conditions at and surrounding the proposed site have been summarised from **Chapter 4, ES Volume 2A**, and are presented in **Table A.2 on page 11**. This Chapter is supported by **Appendix 4, ES Volume 2B**.



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Plate 3 - Proposed Site Location (Development Boundary Outlined in Red)

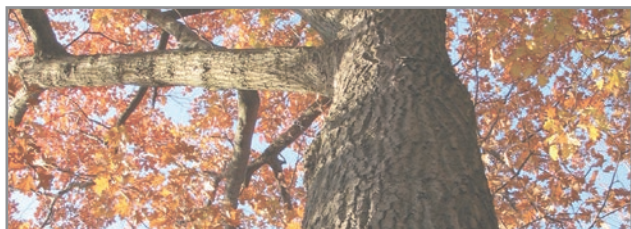
NON-TECHNICAL SUMMARY

Table A.2 - Summary of Key Existing Conditions At and Surrounding the Proposed East Stour Solar Farm

Feature	Description
Closest dwellings	There are seven dwellings, within 500m of the boundary of the proposed solar farm. Bested House and The Paddock (both at approximately 150m from the nearest panel row) are the closest non-involved private dwellings to the proposed development.
Existing land use	<p>The proposed site is primarily used as arable agricultural land.</p> <p>Sellindge Converter Station and the existing Sellindge Solar Farm are on land adjacent to the proposed development.</p> <p>Dividing the site are a local highway and railway lines: Church Lane runs north/south between the central land parcel at Bested Hill and the eastern land parcel around Partridge Plantation; and the HS1 and local railway lines travel east/west across the site, separating the northern development area from the rest of the site.</p> <p>There are a number of infrastructure and development features existing in the landscape around the proposed solar farm site. These include: overhead electricity lines carried on pylons and wooden poles; the High Speed 1/ South Eastern Mainline railway line; the M20; the A20; Church Lane; Goldwell Lane; Station Road; Roman Road and Harringe Lane.</p>
Agricultural Land Classification	At the site the land is classified as Grade 3a - good (14.6%); and Grade 3b -moderate (85.4%). Agricultural land benefits from an extended fallow period which would ultimately increase soil quality.
Environmental Land Stewardship	<p>Land within the proposed site is covered by an Agri-Environmental Scheme.</p> <p>There is an Environmental Stewardship Agreement for Entry Level plus Higher Level Stewardship. There is no Countryside Stewardship Agreement over the land.</p>
Past and future land use	<p>The proposed site has been in agricultural use for many decades. Future land use of the site is expected to remain as agricultural.</p> <p>During the operational phase, the use of the land will become a mix of agriculture with biodiversity improvement and renewable energy generation. Wild flower/grass meadow will be sown under, between and around the solar panels. These areas will be available for sheep grazing to continue agricultural production from the land.</p>
Public Rights of Way	<p>Four Public Rights of Way (PRoW) cross the proposed site:</p> <ul style="list-style-type: none"> • footpath AE437 - travels west from Church Lane along the northern field boundary of the northern land parcel, then heading south across the site and continuing south-west; • footpath AE432 - continues west from footpath AE437 along the northern field boundary before crossing the site in a south-westerly direction; • footpath AE457 - crosses the central land parcel along the south-western corner of Bested Hill; and

EAST STOUR SOLAR FARM

Feature	Description
Public Rights of Way (continued)	<ul style="list-style-type: none"> • footpath AE459 - crosses the eastern part of the site, from Partridge Farm across Partridge Plantation. <p style="text-align: center;">Adjacent to the central section of the proposed development, footpaths AE656 and AE657 follow the northern and north-western field boundaries of Bested Hill.</p> <p style="text-align: center;">In the wider area there is a network of additional public footpaths.</p>
Designations	<p style="text-align: center;">There are no designations within the proposed development area.</p> <p style="text-align: center;">Within approximately 2.0km of the East Stour Solar Farm there are:</p> <ul style="list-style-type: none"> • one Area of Outstanding Natural Beauty (AONB) - Kent Downs (south of the site); • one Local Nature Reserve (LNR) - Poulton Wood (south-west of the site); • one Site of Special Scientific Interest (SSSI) - Hatch Park (north-west of the site); • 23 Ancient and Semi-Natural Woodland and four Ancient Replanted Woodland areas; • two Scheduled Ancient Monuments - Romano-British building south of Burch's Rough (south of the site) and Barrow cemetery to the south-west of Barrowhill (east of the site); • one Registered Park and Garden - Hatch Park (north-west of the site); and • 118 Listed Buildings, including four Grade I listing and six Grade II* listings. <p>There are no National Nature Reserves (NNR), National Parks, Ramsar sites, Special Protection Areas (SPA), Registered Battlefields, Special Areas of Conservation (SAC) or World Heritage Sites within 2km of the site.</p>
Existing, consented and proposed commercial scale renewable energy developments	<p style="text-align: center;">There is one operating commercial solar arrays within the 5.0km study area, Sellindge (Partridge Farm) Solar Farm (10.6MW), which is on land adjacent to the north and east of the proposed development areas on Partridge Plantation and Bested Hill.</p> <p style="text-align: center;">A battery energy storage project is proposed by Pivot Power, an EDF company, on land west of Sellindge Converter Station and east of the northern parcel of the proposed East Stour Solar Farm.</p> <p>There is one consented (2012) solar energy development on land to the north of Westenhanger Castle (Ref. Y12/0093/SH), approximately 3.0km east of the East Stour proposal - not built and not considered further.</p> <p style="text-align: center;">Screening Requests for two solar energy developments (Ref. 13/0014 & 14/0010; and Ref. 13/0021) within 3km of the proposed site were submitted in 2013 and 2014. Given no applications have been forthcoming and the intervening time, these proposals are not considered any further.</p> <p style="text-align: center;">A proposal for a 165MW solar site to the immediate east of the East Stour proposal was announced in November 2021. The proposals have yet to enter the planning system.</p>



ENVIRONMENTAL IMPACT ASSESSMENT (CHAPTER 5)

The Concept of Environmental Impact Assessment (EIA)

- A.50 EIA is a process by which a development is assessed in terms of its likely impact upon the baseline environment, to enable decision makers to determine the acceptability of the development.
- A.51 This baseline environment may include the population, fauna, flora, soil, water, air, climatic factors, material assets (including the architectural and archaeological heritage), landscape and the inter-relationship between the above factors.
- A.52 Environmental impacts, both positive and negative, can be classified in terms of their significance according to relevant best practice guidelines and methodologies. An EIA is intended to identify the significant effects.

- A.53 Once significant impacts have been determined, an EIA will propose avoidance and mitigation strategies that may be applied to avoid, reduce, remedy or compensate for the predicted significant effects. The predicted residual impacts of the development are assessed on the basis that these strategies are applied.

The Need for EIA

- A.54 A Screening Request was submitted to Ashford Borough Council in July 2021. The subsequent Screening Opinion stated that an EIA would be required due to potential significant effects on nearby heritage assets (including St Martin's Churchyard and the Aldington Conservation Area) and potential cumulative impacts with the adjacent Sellindge Solar Farm.
- A.55 A Scoping Report was then submitted to Ashford Borough Council in October 2021. At the point of submission, a Scoping Opinion is yet to be received. As such, the EIA has followed the approach proposed in the Screening and Scoping Reports, and in line with advice received through the Pre-Application and Screening responses.
- A.56 As part of the EIA, the findings of the studies involved are formulated into an Environmental Statement (ES) document (**Volumes 1-4**).

- A.57 In **Chapter 5, ES Volume 2A**, and accompanying **Appendix 5, ES Volume 2B**, all methodologies and guidance adhered to through the EIA are detailed, as is information on the study areas applied in order to identify significant effects.

Public Consultation

- A.58 In line with Ashford Borough Council's guidance, the Applicant consulted with the local community and stakeholders across two rounds of public consultation. The first round (summer 2021) was carried out remotely with a limited number of small, in-person meetings. The second round of consultation (winter 2021) adopted a mix of in-person events (including two public exhibitions) and information made available online through a virtual public exhibition.
- A.59 Over 2 800 addresses in the area around the proposed Scheme were contacted at the outset of each consultation to provide information on the proposals and to set out how those with an interest can take part in the consultation.
- A.60 A total of 415 individual feedback responses were received, as reported in more detail in **Chapter 5, ES Volume 2A** and the accompanying **Appendix 5.5**.



THE PROPOSED DEVELOPMENT (CHAPTER 6)

- A.61 As shown at **Plate A.2 on page 9**, the East Stour Solar Farm proposal is for an array of fixed ground-mounted solar photovoltaic panels, access tracks, substation and ancillary infrastructure.
- A.62 The proposed operational lifetime of the project is 40 years, following which the solar farm would be decommissioned, unless a new planning application is submitted and consented by the Local Planning Authority for its retention/replacement.
- A.63 Details of each element comprising the proposed development are summarised in the following section, with detailed drawings contained at **ES Volume 3**.

Solar Array



- A.64 An array of ground-mounted solar photovoltaic panels set out within an area of approximately 65.5 hectares with an export capacity of up to 49.9MW (3 Significant Figures (S.F.)).
- A.65 Solar panel technology is fast moving and the final model will be chosen from the open market at the pre-construction phase. The Environmental Impact Assessments have been undertaken using a candidate solar photovoltaic panel.
- A.66 The solar panels will be mounted at an angle of approximately 20 degrees with a maximum height of 3.0m.
- A.67 Frames that support the panels are typically made of aluminium and they are fixed to the ground with ground anchors. Where less disturbance is required to the subsurface, concrete 'feet' can be used to stabilise the panel frames on the surface. Typical frame and footing details are provided at **Figure 6.1 (ES Volume 3)** and within **Table A.3 on page 15**.



Additional Elements

- A.68 In addition to the solar panels, the proposed East Stour Solar Farm comprises:
- site access tracks, including two existing field accesses and a new crossing of Church Lane;
 - inverter/transformer units;
 - site cabinets (for security and control systems; welfare facilities; and storage);
 - substation cabinets and underground grid connection cabling;
 - security fence (based on a deer fence style) with cctv;
 - cables and conduits; and
 - temporary construction compounds.
- A.69 A summary of the associated infrastructure proposed is provided in **Table A.3 on page 15**.




NON-TECHNICAL SUMMARY

Table A.3 - Details of Proposed Infrastructure Associated with the East Stour Solar Farm


Element	Description	Typical Appearance
Solar Array	Typical ground-mounted solar array on aluminium frame fixed to the ground with anchors.	
Concrete 'Feet'	Typical ground-mounted solar array concrete 'feet'.	

Element	Description	Typical Appearance
<p>New Access Track</p>	<p>To minimise environmental impact, proposed site entrances and access tracks are to be situated where field entrances or hedge gaps currently exist, wherever possible.</p> <p>Where sections of new, upgraded or widened access track are required this will have the appearance of typical vernacular farm tracks with a crushed stone running surface, grassed over in time. The running surface (4.0m wide) is laid over a permeable stone sub-surface on a surface-mounted geogrid base (e.g. Cellweb).</p> <p>The on-site access tracks need to remain in place through the lifetime of the project to facilitate access for routine maintenance.</p>	
<p>Site Entrance</p>	<p>Three points of access for construction are proposed from the public highway, located off Church Lane. The access points for the northern area and Bested Hill will use existing field entrances off Church Lane. A new access point will be required to reach the eastern area with a new crossing of Church Lane.</p> <p>The location of the proposed site entrances is shown at Figure 6.2 (ES Volume 3). Field gates will be used to secure the entrance points.</p>	<p style="text-align: center;">-</p>
<p>Inverter/ Transformer Units</p>	<p>The solar panels generate Direct Current (DC) electricity, which must be converted to electricity with an Alternating Current (AC) before it is exported at the grid connection point within the Sellindge Converter Station. This conversion will be undertaken by 20 containerised inverter/transformer units, each approximately 6.0m long by 3.0m wide and 3.0m high. The external finish will be agreed with the Local Planning Authority prior to construction commencing.</p> <p>Electrical cables pass along the rear of the panels then underground across site to the inverter/transformer units. From the inverter/transformers, export cables pass through the on site substation cabinets, then onwards to the Sellindge Converter Station.</p>	

NON-TECHNICAL SUMMARY

Element	Description	Typical Appearance
<p>Site Cabinets</p>	<p>Three cabinets will be located at the northern and one in the central areas of the site. They will contain welfare facilities and the security and solar farm control systems, equipment for general maintenance and spare parts, should they be needed during the operational phase.</p> <p>These are glass reinforced plastic (GRP)(pictured) or steel container-based cabinets typically 6.0m long, 3.0m wide and 3.0m high.</p> <p>Four substations are proposed for the site: three internal substations within each parcel of land, and a central substation. The substations will typically be 6.0m long, 3.0m wide and up to 3.0m tall and constructed of Glass Reinforced Plastic (GRP) or steel container-based cabinets, finished in a colour to be agreed with the Local Planning Authority.</p> <p>Drawings of typical cabinets (including substation cabinets) are provided as Figure 6.5 (ES Volume 3).</p>	
<p>Grid Connection</p>	<p>From the central on-site substation (located immediately west of the Sellindge Converter Station/substation) underground cables will travel along internal access tracks and the Church Lane verge under Church Lane to the Sellindge Converter Station/substation, where the electricity is connected to the National Grid.</p>	
<p>Security Fence</p>	<p>A perimeter fence would be installed to protect the panels from theft. The fence will be stock proof style fencing with wooden posts and open wire mesh up to 2.15m tall. Access points for wildlife will be included at key points in the fence line to ensure permeability across habitat.</p> <p>Public rights of way will remain open although some management may be required during construction for health and safety reasons.</p> <p>A typical fence and accompanying wire mesh gate detail is shown in Figure 6.7 (ES Volume 3).</p>	

EAST STOUR SOLAR FARM

Element	Description	Typical Appearance
Cables and Conduits	<p>The solar panels and inverters are electrically connected to each other, with connections made for:</p> <ul style="list-style-type: none"> • electronic communication and control; • low voltage power supply for the monitoring and operating systems; • high voltage power export cables; and • broadband telecommunication for remote site monitoring and management. <p>Cables between solar panels in the same row are hung in ducts fixed along the back of panels to the end of the row.</p> <p>All connection cables will be run across the site in underground cable trenches below agricultural depth. The typical detail of the cable trenches is shown on Figure 6.6 (ES Volume 3).</p>	
CCTV	<p>Inward facing CCTV cameras will be located around the perimeter of the site. Cameras will be positioned on posts that are approximately 2.0m tall, as shown at Figure 6.8 (ES Volume 3).</p> <p>The cameras will not be directed at the public rights of way crossing the site but are used for security of the solar farm infrastructure.</p>	-
Lighting	<p>No visible lighting is proposed for the operational period of the solar farm. Lighting associated with CCTV cameras will be infrared and not visible to the naked eye.</p> <p>Any temporary lighting on site during the construction phase will be kept to a minimum to avoid disturbance to local residents and ecological species as far as practically possible.</p>	-
Temporary Construction Compounds	<p>For the duration of the construction and decommissioning periods, temporary compound areas will be required to provide secure storage of equipment and construction materials, welfare facilities and office accommodation for site staff. There will be a main compound at the centre of the site near to the railway line on Bested Hill, and two additional welfare areas serving the northern and eastern land parcels.</p>	-



CONSTRUCTION, OPERATION AND DECOMMISSIONING (CHAPTER 7)

A.70 This chapter describes the construction, operation and decommissioning of the proposed East Stour Solar Farm.

Phases of Development

Construction

A.71 The construction of a solar farm is a relatively straight forward process.

A.72 The principal phases to the construction are:

- site access tracks are built or upgraded and site fencing is erected;
- the combined inverter/transformer units and site cabinets are offloaded in situ;
- panel frames are push-driven into the ground and fixed in place;

- panels are mounted to the frames and wired together;
- cable trenches are dug to install the main cables; and
- all electrical connections are made and the site is commissioned.
- landscape mitigation planting takes place during the autumn.

A.73 **Plate A.4 on page 21** provides an overview of the construction process as a photographic sequence

A.74 It is envisaged that the proposed East Stour Solar Farm will take approximately nine months to construct, with multiple teams working in different areas of the site simultaneously. Most of the construction activity is involved with the track construction during the first six months of construction.

Operational Phase

A.75 Following the installation of the solar panels and the completion of commissioning, the panels begin generating and exporting electricity.

7.76 As stated at **Chapter 1 - Introduction** it is predicted that the solar farm at this site would have a potential annual yield of approximately 69 600MWh.

7.77 In terms of household electricity usage this would be sufficient to offset

the equivalent annual energy needs of 16 900 (to 3 S.F) average Ashford Borough homes (as noted in **Chapter 1**).

7.78 The generation of this electricity will offset electricity generated from other sources. The project is connected in to the National Grid substation and all electricity generated by the site will be transferred to the electricity network. This means that whilst the solar array is generating electricity, it in turn reduces demand on the large fossil fuel power stations.

7.79 On the basis of the 2021 Greenhouse Gas Conversion Factors (DBEIS, 2021a) the electricity produced by the East Stour Solar Farm will offset approximately **14 800 000kgCO₂/annum or 14 800 tonnes CO₂ per annum** (to 3 S.F.).

7.80 DBEIS report that the CO₂ emissions associated with the average Ashford resident was 1.41 tonnes of CO₂ per annum based upon per capita emissions in 2019 (DBEIS, 2021d). The 14 800 tonnes of CO₂ offset by the solar array would therefore compare to the total equivalent domestic emissions of some 10 500 (to 3 S.F.) average Ashford Borough residents.

7.81 This project therefore provides a material contribution to the net zero target by 2050 at both National

(through the Climate Change Act) and Local level. Whilst Ashford Borough elected not to declare a 'Climate Emergency', the Council has elected to commit to carbon neutrality by 2030.

- A.82 The use of remote monitoring reduces the number of site visits required to typically one each month, in a light van or four-wheel drive vehicle.
- A.83 The panels will be cleaned periodically to ensure maximum production. This involves the transportation of a tractor unit, de-ionised water bowser and cleaning team (generally 3-4 personnel) to site once or twice a year. Wild flower meadow areas will be mown at the appropriate time of year.

Decommissioning Phase

- A.84 At the end of the operating life of the solar farm, the panels and associated infrastructure will be fully decommissioned unless a new application for a replacement solar energy development is made to, and granted by, the Local Planning Authority.
- A.85 If a replacement development is both applied for and consented, then a partial decommissioning will be undertaken, typically involving the removal of the existing solar panels.

This process would be analysed within the Environmental Impact Assessment or Environmental Report for the replacement site application.

- A.86 If a replacement development is neither applied for nor consented then the decommissioning of the solar farm would follow the reverse of the construction phase over a shortened time period of approximately four months.
- A.87 It is likely that temporary compounds similar in size and nature to the main temporary construction compound will be required for the secure storage of equipment and for worker welfare facilities during decommissioning. The compounds will be in situ for the duration of the decommissioning process, after which the compound area will be reinstated to agricultural land.
- A.88 The solar panels and frames will be removed. The site will be reinstated with electrical connections isolated and made safe and left in situ, below plough depth, or removed for recycling. The inverter/transformers, site containers and cabinets will be removed from the site and foundations removed down to a level where they would have no impact upon reintroduction of farming use of the site.

A.89 The new site tracks would be left in place for use by the landowner for their farming practices, if required. Otherwise materials would be removed and the land returned for full agricultural use.

A.90 A Waste Management Plan will be agreed with Ashford Borough Council and will include measures for the treatment of waste arising during the decommissioning phase. This plan will maximise re-use and recycling in accordance with the waste management hierarchy.

Protection Measures

A.91 A Construction Environment Management Plan (CEMP) will be agreed with the Local Planning Authority prior to construction commencing. This will include details of all mitigation measures proposed for the safe and environmentally sensitive construction of the proposed East Stour Solar Farm. The CEMP overall sets out the management measures which all contractors on site will be required to adhere to at all times to control the construction effects on the environment and surrounding receptors, as well as the safety of construction personnel. It will outline how environmental issues will be handled to ensure compliance with relevant legislation.

NON-TECHNICAL SUMMARY



Plate A.4 - Photographic Sequence of Construction Process

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NON TECHNICAL SUMMARY - PART B

NTS Part B Contents

Introduction	25
Traffic and Access (Chapter 8)	26
Hydrology and Flood Risk Assessment (Chapter 9)	29
Ecology and Ornithology (Chapter 10)	34
Landscape and Visual Impact Assessment (Chapter 11)	43
Archaeology and Cultural Heritage (Chapter 12)	58
Noise (Chapter 13)	62
Glint and Glare (Chapter 14)	64
References	68

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INTRODUCTION

Table B.1 - EIA Team

B.1 The Environmental Impact Assessment (EIA) for the East Stour Solar Farm has been undertaken by a specialist team appointed by the developer. This team operates independently from the developer to ensure neutrality.

B.2 The specialist EIA team for the project is detailed in **Table B.1**. The specialist assessments and their associated chapters have been authored in their entirety by the relevant consultants.

B.3 In addition, the following specialist consultants have provided background reports and analysis to inform the relevant ES chapters:

- Daniel Baird Soil Consultancy Limited - Agricultural Land Classification survey;
- SEC Newgate S.p.A. - Public engagement and consultation;
- Traffic Surveys UK Limited - Automatic Traffic Counts; and
- Magnitude Surveys Limited - Geophysical Survey for Archaeological Assessment.

Specialist	Specialism	Chapter
Wallingford HydroSolutions Limited	Hydrology and Hydrogeology	9
Turnstone Ecology Limited	Ecology and Ornithology	10
Viento Environmental Limited	Landscape and Visual Assessment (LVIA), including visualisations	11
Orion Heritage Limited	Archaeology and Cultural Heritage	12
Ion Acoustics Limited	Noise	13
Neo Environmental Limited	Glint and Glare	14

B.4 Following completion of the Environmental Impact Assessment, production of the subsequent Environmental Statement accords with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, and follows the identified scope as set out in the Scoping Request.

B.5 Throughout, general guidance has also been used from the following documents:

- National Planning Policy Framework, MHCLG, 2021;

- National Planning Practice Guidance, MHCLG, 2021;
- Overarching National Policy Statement for Energy (EN-1), 2011a;
- National Policy Statement for Renewable Energy Infrastructure (EN-3), 2011b;
- Draft National Policy Statement for Renewable Energy Infrastructure (EN-3), 2021; and
- Ashford Local Plan (2019).

B.6 Individual specialist sections of the assessment and chapters have been prepared according to the relevant standards and methodologies pertinent to each section. Please refer to individual chapters in **Volume 2A** for details.

B.7 In addition to the Environmental Statement, the Planning Statement accompanying the application considers the local and national planning policy relevant to this application, and the planning context that the development should be assessed against.



TRAFFIC AND ACCESS (CHAPTER 8)

B.8 This chapter considers the impacts of the East Stour Solar Farm on the local roads infrastructure, particularly during the construction process.

B.9 **Chapter 8 in Volume 2A** of the ES and accompanying **Appendix 8, ES Volume 2B**, considers the baseline environment including: the local road network; traffic volumes; road accident records; and Public Rights of Way (PRoW).

Delivery Route

B.10 A desktop mapping exercise and driven visual route inspection, where necessary, considered potential routes for construction traffic to the proposed site from the highway network.

B.11 Deliveries will be made using standard HGVs and it has been assumed that delivery for components would use the motorway and A-road network as far as possible from the appropriate UK port of delivery (Dover). This minimises the potential disruption to local traffic and road users.

B.12 Deliveries will primarily travel along the M20 then A20 and then approach the site along Church Lane. The route identified for construction deliveries to the East Stour Solar Farm is shown in **Plate B.1 on page 27**.

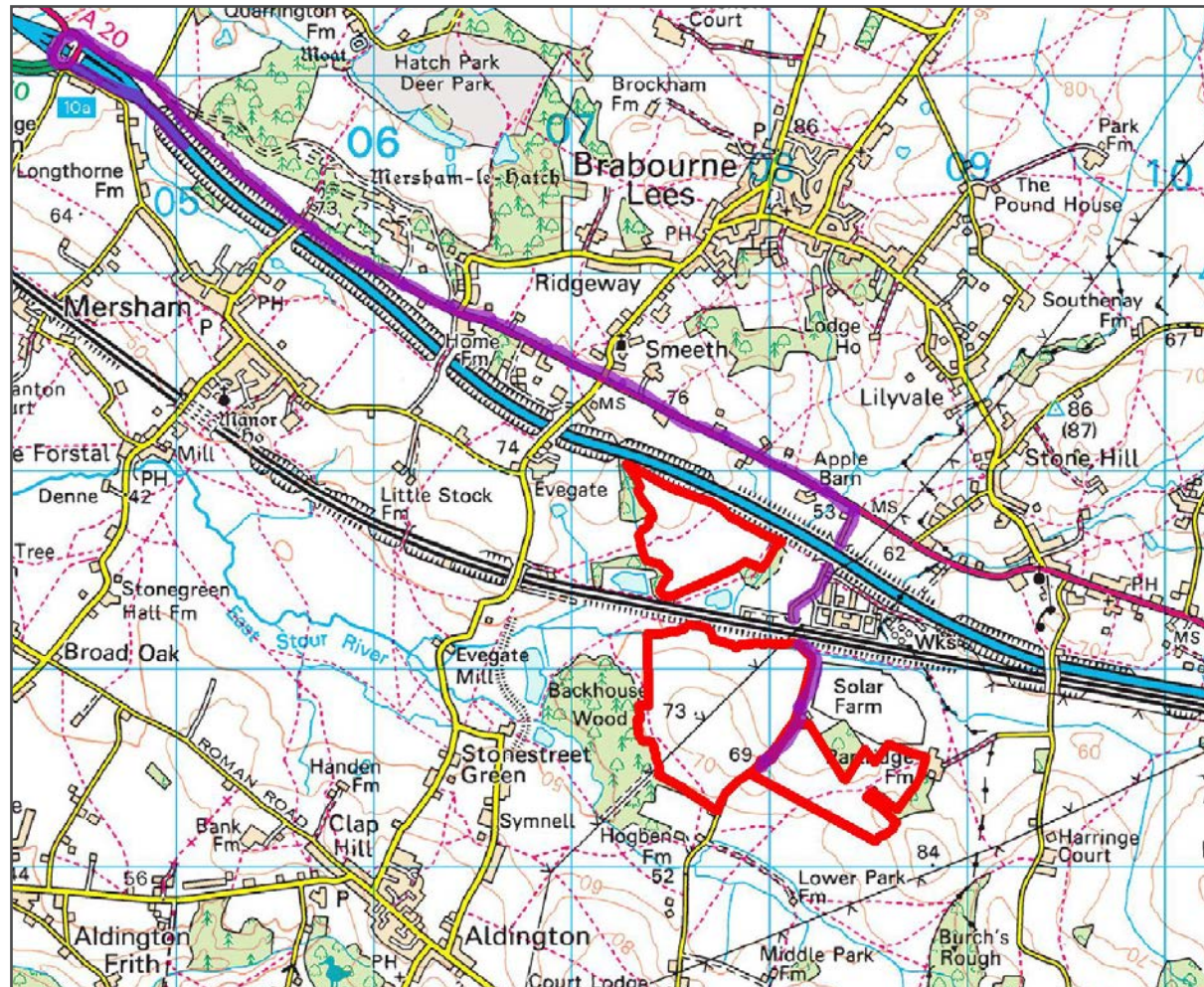
Impacts on Roads and Users

B.13 This assessment considers the approach outlined in the Guidelines for the Assessment of Road Traffic (IEMA, 1993).

B.14 For existing road users, impacts may arise through traffic delays caused by construction vehicles, or to their visual amenity (which is considered further in **Chapter 11 - LVIA**).

B.15 With respect to road impacts there is the potential to damage road surfaces through the delivery of aggregates and silting of drains through mud deposits on to the highway.

- B.16 The construction of solar energy projects requires the delivery of a variety of loads, including 'Redimix' concrete, standard HGV to carry the panel frames and solar panels, and a small crane (typically 45T) to offload the inverter/transformer units.
- B.17 The East Stour Solar Farm proposal will take approximately nine months to construct. Most of the construction traffic activity is involved in the delivery of the solar panels.
- B.18 Deliveries are spaced throughout the construction period although fewer movements are associated with the end of the construction period. The construction programme starts with a temporary construction compound. Thereafter, a rolling programme will complete areas of the site with the fencing, framing system, panels, electrical system installation and commissioning.
- B.19 The operational phase involves site traffic associated with monthly site visits and annual scheduled servicing, cleaning and mowing/trimming.
- B.20 The decommissioning phase is a reduced reverse version of the construction process with tracks being retained where required by the farmer.



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Plate B.1 - Proposed Delivery Route from M20 Motorway (shown in purple, development area in red)

Mitigation Measures

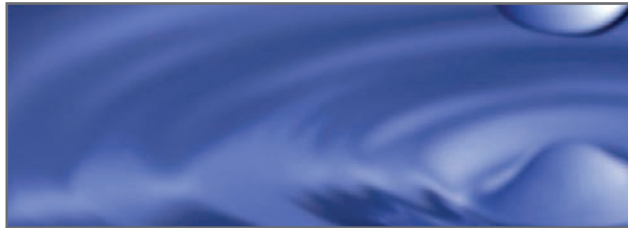
- B.21 During construction and decommissioning, deliveries will be restricted, wherever possible, to off-peak weekdays to reduce impacts on local road users. Off-peak is considered to be between 09:00 and 15:00.
- B.22 Advance notification of potential delay for road and PRow users will be provided through appropriate signage and advertisement. EDF Renewables will liaise with the Highways Authorities and Police prior to the construction phase commencing.
- B.23 To avoid construction traffic travelling through the nearby villages, all construction vehicles will be required to use the access route identified from the A20 and HGVs will be required to approach from the identified route from Junction 10a of the M20. No construction traffic, be it HGV, LGV or PSV, will be permitted south of the Church Lane highway crossing.
- B.24 As well as advance notification and appropriate signage, banksmen will be used on the PRow to minimise risk and disruption to users of the footpaths during the construction phase.

- B.25 Mitigation planting is proposed to filter and screen views to users of the road network once established.
- B.26 It is suggested a scheme for pre-construction and post-construction road condition and road drainage surveys to identify then rectify any damage to the highway, verges and drains caused by construction traffic will be produced by the Developer and agreed with Kent County Council in advance of construction commencing.
- B.27 In addition, prior to construction, precautionary mitigation measures are suggested to include:
- a drainage scheme should be devised to ensure that no water enters the highway from the site access or a suitable system is agreed; and
 - wheel wash facilities, as appropriate, and sweeping is to be carried out to ensure the road is kept reasonably clear of any deposits from the construction works and the local drains are kept clear.
- B.28 Alongside the proposal the Applicant, EDF-R, is committing to maintain reduced height hedges in proximity to

the Church Lane crossing of the East Stour to maximise highway visibility. This would be agreed with the Ashford Borough Council through a Landscape and Environmental Management Plan and controlled by condition.

Residual Impacts

- B29 The predicted peak HGV movements are less than 10% of daily movements on the M20 and A20 and as such, no significant impacts are predicted on the wider highway network. Movements along Church Lane to the site entrances, and at the highway crossing point are more than 30% of the average daily HGV total vehicular movements at these locations, and so assessed as potentially significant. However, given the sequential nature of construction across the site over time, not all stretches of Church Lane will be affected for the full nine months of construction.
- B30 Following mitigation, minimal non-significant impacts are predicted for users of Public Rights of Way surrounding the proposed development, with temporary delays as vehicles cross the rights of way under the control of banksmen



HYDROLOGY AND FLOOD RISK ASSESSMENT (CHAPTER 9)

- B.31 This assessment, undertaken by Wallingford HydroSolutions Ltd (WHS), comprises of a desk-based study of the baseline hydrology, geology and hydrogeology environment for the proposed East Stour Solar Farm along with any potential impacts and mitigation. The assessment of the effects of the project on the water environment was conducted in accordance with current legislation and guidance, including the Design Manual for Roads and Bridges (DMRB) LA113 – Road Drainage and the Water Environment (Highways England, 2020).
- B.32 The full assessment can be found in **Chapter 9, Volume 2A** of this

Environmental Statement and accompanying **Appendix 9, ES Volume 2B**.

Baseline

Surface Hydrology, Site Drainage & Flood Risk

- B.33 The site is split into three sections, separated by the railway line. These are referred to as the northern, southern and south-eastern sites, for the purpose of this assessment.
- B.34 LiDAR data indicate that the northern site drains primarily in a south-easterly direction towards the railway line and an unnamed brook that flows parallel to the site, before joining the East Stour River. A small westward portion drains towards an unnamed ditch network which then joins the East Stour. Just to the south of the northern site there are lakes present, one of which is used for recreational purposes such as fishing.
- B.35 The southern site drains in almost all directions due to the summit of the hill being within the site boundary. The site drains to the East Stour River to the north, and to the south it drains towards an unnamed brook that flows north to the East Stour River.

- B.36 The south-eastern site has three drainage zones: the southern corner drains south to an unnamed drain, and the remaining two drain north to an unnamed drain.
- B.37 A review of the Environment Agency (EA) online flood maps indicates that the southern site is wholly within Flood Zone 2. However, due to the large rise in levels from the river to the summit of the hill (50 to 70m AOD), this indicates an inaccuracy with the flood zone extent for the site. It has been agreed with the EA to use the 51.3m AOD contour as the limit of development for the southern and northern sites. This level reflects the highest level of the water storage area which covers part of the southern and northern sites. The northern edge of this site is also within flood zone 3 and there are surface water flow paths draining to the north.
- B.38 The northern site has areas which are within Flood Zones 2 and 3, and areas with surface water flood risk adjacent to the unnamed brook. The south-eastern site is not within either Flood Zone 2 or 3, but there are some small surface water flow routes present.
- B.39 No part of the site is at risk from coastal or reservoir flooding.

Hydrogeology

- B.40 The groundwater vulnerability maps show the vulnerability of groundwater to pollutants discharged into the ground based upon the hydrological, geological and hydrogeological soil properties. The vulnerability classification for part of the northern and southern sites is high. Therefore, appropriate mitigation will be required to ensure the protection of groundwater in those areas.

Water Quality and Water Use

- B.41 The site does not lie within a drinking water safeguard zone or a source protection zone, but does lie within a nitrate vulnerable zone.
- B.42 There is a private domestic water supplies (PWS) approximately 1.3km from the site.

Ground Water Dependent Terrestrial Ecosystems (GWDTE)

- B.43 There are no GWDTE in the vicinity of the site which could be impacted by the development due to the large distance to the nearest sites.

Potential Impacts

Construction and Decommissioning

SOIL AND GEOLOGY

- B.44 There is a risk of soil compaction across the site through operation of machinery and plant to install the panel arrays. However, the access tracks to be constructed will be the most heavily trafficked areas. These tracks will be constructed from permeable materials and therefore a small impact on soil in these areas is foreseen. There will likely be a minor increase in run-off due to this soil compaction and the development of impermeable building areas.
- B.45 Excavation of the topsoil will likely be required to lay the proposed access tracks. This can often have a direct impact on the exposed subsoil or rock due to increased risk of erosion.
- B.46 The potential impacts on soils and geology prior to mitigation are considered negligible (not significant).

WATER QUALITY

- B.47 The primary short-term construction impacts include the potential

for reductions in water quality through siltation of the surrounding watercourses due to soil erosion and accidental release of pollutants leading to changes in in-stream hydrochemistry.

- B.48 Potential impacts from chemical spillages/ leakages from the proposed development and fuel spillages from construction vehicles were considered low risk. However, if this were to occur, it would have the potential to soak through the subsoil and into the groundwater, or alternatively be entrained with surface water runoff into the watercourses surrounding the site.
- B.49 Due to there being a principal aquifer underlying parts of the southern and northern sites, these would be considered a high sensitivity receptor and there is the potential for contamination from chemical pollutants to these aquifers.
- B.50 Potential impacts on surface water receptors are considered negligible (not significant). Prior to mitigation, the potential impact on groundwater receptors of high sensitivity (i.e. the principal aquifer) are assessed as major and significant.

B.51 The private water supply in proximity to the site lies in a different surface water catchment to the site. There is considered to be no possible mechanism where pollution at the site could impact the PWS.

DRAINAGE AND FLOOD RISK

B.52 The impact from construction will be limited for flood risk in terms of the short timescale of this phase, but there are temporary impacts that could arise. If temporary units or stockpiles are located in surface water preferential flow routes then blocking these routes could cause an increase in flood risk. If they are located in the fluvial flood plain (the Aldington flood storage area) then flood storage volume would be effectively removed temporarily. At the latter stages of construction when impermeable areas have been built, this could cause an increase in flood risk, resulting from greater runoff rates.

B.53 The flood risk receptors for the site are residential housing up and downstream of the site, Church Lane and the Sellindge electrical stations. The potential impact on these receptors of high sensitivity could be up to moderate. This would

result in a potential effect of moderate significance.

Operation

SOIL AND GEOLOGY

B.54 Lack of infiltration over a longer timescale through the introduction of impermeable infrastructure could lower the aquifer recharge rate in the parts of the southern and northern sites that are overlying a principal bedrock aquifer. However, due to the small area of the permanent infrastructure, and given retained vegetation surrounding the panels, this is assumed to be a small impact.

B.55 There is potential for soil erosion from surface water runoff if vegetation cover is not maintained across the site. We consider that there will be no impacts to geology as this receptor will not be exposed during this phase.

B.56 Potential effects on soils and geology have been assessed as minor (not significant).

WATER QUALITY

B.57 There is potential for improvement of surface water quality resulting

from the change of land use away from agriculture, which is currently a contributing factor to the moderate Water Framework Directive (WFD) status of the East Stour River. This is especially important given the site lies in a Nitrate Vulnerable Zone.

B.58 During operation there is a risk of spillage of chemicals from maintenance vehicles which could infiltrate into the soil or be entrained with surface water runoff into the local watercourses. There is also a risk of increased siltation if vegetation cover is not maintained surrounding the panel array. Due to there being a principal aquifer underlying parts of the southern and northern sites, these would be considered a high sensitivity receptor and there is the potential for contamination from chemical pollutants to these aquifers from maintenance vehicles, although this is predicted to be lower risk than during the construction phase.

B.59 No significant impacts are predicted overall.

DRAINAGE AND FLOOD RISK

B.60 The proposed solar panels themselves are thought to have a limited impact on

the surface water runoff regime of the site as, due to the tilt of the panels that are raised above ground, rainwater can still reach the existing vegetation underneath.

B.61 The proposed development would result in the increase of impermeable areas through the construction of inverter, welfare and store cabinet and container foundations. An increase in impermeable area on site leads to a reduction in infiltration and an increase in surface water runoff. This means rainwater can reach rivers faster, carrying a larger volume of water, subsequently increasing downstream flood risk.

B.62 Prior to mitigation, a potential moderate, significant effect on flood risk up and downstream is predicted.

Mitigation

Soil and Geology

B.63 Mitigation measures will include:

- reducing exposure time and extent of soils during excavation activities (e.g. access track construction and cabling installation) to minimise the risk of erosion/siltation;

- gravel material will be used as opposed to tarmac to allow a level of infiltration;
- if scour or siltation could occur on steeper sections of the site, silt traps, soil bunds and grass filter strips will be used to capture any sediment; and
- the layout of the panels would be designed to minimise the risk of local scour problems (e.g. 20° tilt to allow water to drip from the panels along the length of each row).

Surface and Ground Water Quality

B.64 Mitigation measures to protect the quality of surface and groundwater resources include:

- all fuel, lubricants and chemicals would be stored within bund containment areas (with 10% extra capacity). Any filling points will be within the bunded area or have secondary containment;
- Refuelling, cleaning and routine maintenance of vehicles will be carried out off-site. Drip trays will be placed under standing plant and spill kits will be provided;

- all solid and liquid waste materials would be properly disposed of away from the site; and
- welfare facilities would be provided on site, and effluent contained within a sealed unit which would be appropriately disposed of offsite.

B.65 The mitigation measures for soils (**Paragraph B.63**) are also relevant for ensuring minimal impacts upon water quality from increased siltation.

Drainage and Flood Risk

B.66 The impact of the solar panels on the existing drainage is expected to be minimal due to their design. However, due to the small increase in impermeable area on site from the associated operational infrastructure, a conservative approach to drainage will be adopted utilising extensive planting and targeted Sustainable Urban Drainage Systems (SuDS) to control and increase the quality of surface water runoff.

B.67 The proposed built infrastructure, where surface water flow would be impeded, are located outside of the areas indicated to be at risk of surface

water flooding to ensure existing surface water drainage routes are not impeded. The additional surface water run-off resulting from impermeable surfaces on the site will be attenuated by extensive planting and captured at strategic locations using cut-off swales.

- B.68 All of the infrastructure of the site will be placed outside of the flood exclusion zone, defined in the Flood Risk Assessment and Drainage Strategy (**Appendix 9.1, ES Volume 2B**) from the embankment level of the Aldington Flood Storage Area. This will ensure that no storage volume is displaced, and flood flows will not be impeded.

B.71 It can be concluded from this that there will be no significant effects on the drainage, flood risk, geology, soils, water quality and hydrogeology receptors associated with the site when all mitigation is employed.

Residual Impacts

- B.69 It is considered that all of the potential impacts can be managed appropriately through mitigation measures, good practice construction methods and sustainable design.
- B.70 The proposed mitigation results in no significant effects for each of the potential impacts from construction, decommissioning and operation of the site respectively.



ECOLOGY AND ORNITHOLOGY (CHAPTER 10)

B.72 The Ecological Assessment report, prepared by Turnstone Ecology Limited, presents an assessment of the likely significant effects on Biodiversity from the construction and operation of the proposed development. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any significant adverse effects identified and/or enhance likely beneficial effects. Taking into account the mitigation measures, the nature and significance of the likely residual effects are reported. The full assessment can be found in **Chapter 10, Volume 2A** of this Environmental Statement and accompanying **Appendix 10, ES Volume 2B**.

B.73 A desk-based study was undertaken to gather information on protected species and designated sites, Information on local designations and protected species within 5km of the approximate site centre was obtained from the Kent and Medway Biological Records Centre (KMBRC). Information relating to designated sites, sites where European Protected Species (EPS) Licences have been granted (2009-2019) and historic records of protected species within 2.5km of the site centre were obtained from Magic and other freely available information sources.

B.74 A site survey was carried out on 7th April 2021 and consisted of a Phase 1 Habitat Survey and a Protected Fauna Survey.

10.75 Waterbodies were assessed to determine whether they were suitable for Great Crested Newt using the Habitat Suitability Index (HSI) assessment. Additionally, environmental DNA (eDNA) surveys of four ponds were completed on 15th April 2021.

B.76 Breeding Bird Surveys were undertaken between April and June 2021 to: identify the distribution of

breeding birds across the site; locate the presence of Schedule 1 birds (under The Wildlife and Countryside Act 1981, as amended); locate the presence of species of conservation concern; and identify any species which may require special mitigation during construction and throughout the life of the development.

Ecological Survey Results

Designated Sites

B.77 There are four statutory designated sites and one area of Outstanding Natural Beauty (AONB) within 5km of the proposed solar farm. These are:

- Kent Downs AONB, which wraps around the wider countryside to the north, south and east of the application site and is c. 1.5km south-west of the site at its closest point;
- Hatch Park Site of Special Scientific Interest (SSSI), c. 2.3km north-west of the site;
- Otterpool Quarry SSSI, c. 2.4km to the south-east;

- Lympne Escarpment SSSI, c. 3.4km south-east of the site; and
- Gibbens Brook, c. 3.4km east of the site.

B.78 There are also 14 non-statutory sites including 13 Local Wildlife Sites (LWS) and one Roadside Nature Reserve. None of these sites are within the application redline boundary, although Backhouse Wood LWS is immediately west of the southern section of the site.

Habitats

B.79 The following Phase 1 habitat types were recorded within and immediately adjacent to the proposed site:

- Arable - the site comprises three large arable fields which at the time of the survey were either bare or had been recently sown with Wheat;
- Field margins - approximately 4m wide field margins (consisting of improved grassland) are present along the northern edges of the northern and southern arrays, and are largely absent from the remainder of the site;

- Improved grassland - the two fields comprising the eastern array are both sheep grazed grassland, dominated by short sward improved grassland and comprise of common plant species with occasional White Clover and Creeping Thistle;
- Hedges and Trees - hedgerows within the site are often gappy generally in poor condition, and include some scattered trees. Species present include Ash, Hawthorn, Blackthorn, Willow, Elder and Oak;
- Ditches - consisting of semi-improved grassland with a variety of common grass species;
- Brook - located to the east of the northern array, the brook is approximately 1-1.5m wide, fast flowing, muddy-bottomed and shallow;
- Ponds - there are multiple waterbodies adjacent to the site, including a complex of three large fishing lakes to the south of the northern array;
- East Stour River Corridor - the East Stour River flows from east to west

beyond the northern boundary of the southern array. Large stands of Willow and Alder are present along the northern edge of the river as well as a dense scrubby complex; and

- Woodland - there is no woodland habitat within the application site but there are a number of woodland blocks immediately adjacent to the site.

Protected Fauna

BADGER

10.80 Where access allowed a comprehensive assessment was carried out to identify areas that are used by Badgers (*Meles meles*) for foraging and sett digging.

B.81 Details regarding Badgers are contained within a Confidential Badger Appendix.

DORMOUSE

B.82 The woodlands adjacent to the northern and southern arrays are suitable for Dormouse as they support areas of suitable habitat for this species and Dormouse has been

previously recorded in Backhouse Wood (KMBRC, 2021).

- B.83 Other adjacent woodland areas and hedgerows within the site were deemed unlikely to support Dormouse due to their poor state, absence of food plants and lack of connectivity to other optimal habitat.

BATS

- B.84 There are no buildings or trees within the proposed application site that will be affected by the proposals. A single tree within the central hedgerow has a large crack within the main trunk and is suitable for roosting bats. The woodlands adjacent to the site are all suitable foraging and commuting habitats and are likely to support roosting bats. The brook and the East Stour River corridor are also optimal habitats for foraging and commuting bats.

- 10.85 Data returned from KMBRC indicate that the following bat species have previously been recorded within 5km of the project site: Serotine; Noctule; Daubenton's Bat; Common Pipistrelle; Soprano Pipistrelle; and Brown Long-eared Bat.

- 10.86 It is likely that other common species of Myotis bats occur in the area of the project.

- B.87 The arable fields and improved grasslands within the application site are unlikely to be important for foraging bats.

OTTER

- B.88 No evidence of Otter (including footprints, scats or evidence of holts) was found along the brook or the East Stour River corridor. The brook and river are adjacent to the application site and whilst water quality in both appeared to be poor it is likely that they support populations of fish, and as such are suitable foraging habitats providing suitable corridors for Otters to commute through.

- B.89 The large fishing lakes to the south of the northern array are also likely to be used by Otters as a foraging habitat.

- B.90 No local records of this species was included in the data search.

WATER VOLE

- B.91 No evidence of Water Vole was found along the brook or the East Stour River Corridor, and both watercourses are

considered to be sub-optimal for this species due to the lack of available food plants. The banks of both watercourses are however suitable for burrows to be excavated, although no burrows are present.

- B.92 The closest known populations of this species (KMBRC, 2021) are from Aldington which is approximately 2.1km south-west of the site. It is considered certain that Water Vole are not present within the watercourses adjacent to the application site.

BIRDS

- B.93 A total of forty-five bird species were recorded over the course of the three breeding bird survey visits. Of these, seven were confirmed to be breeding, thirty were probable breeding species, five were possible breeding species and the remaining three are considered to not have bred within the survey area. Detailed results of the survey including breeding and conservation status of the species recorded are presented in **Appendix 10.2**.

- B.94 In general, bird activity was consistent across all survey visits with limited bird activity recorded within the site. The highest density and diversity of

breeding species occurred in habitats adjacent to the site, including the adjacent woodlands, fishing lakes and associated habitats, and the East Stour River corridor.

- B.95 One Schedule 1 species (Cetti's Warbler) was recorded, with adults seen and heard from the habitats adjacent to the fishing lakes as well as at the southern end of Park Wood. It is likely that one or two pairs bred within the habitats between the northern array and the high-speed railway.
- B.96 Seven Red Listed Birds of Conservation Concern (BoCC) species were recorded and, with the exception of Nightingale, all are also NERC priority species. These were Lapwing (probable), Herring Gull (non-breeding), Skylark (confirmed breeding), Starling (non-breeding), Nightingale (possible breeding, but likely), Linnet (probable breeding) and Yellowhammer (probable breeding).
- B.97 Ten Amber List Birds of Conservation Concern were recorded during the surveys: Lesser Black-backed Gull, Mallard, Wood Pigeon, Moorhen, Tawny Owl, Wren, Song Thrush, Dunnock, Bullfinch and Reed Bunting. Two of these (Dunnock and Reed Bunting)

are also NERC priority species. Of the Amber List species recorded, Lesser Black-backed Gull is considered to be the only non-breeding species.

- B.98 Nightingale was the only species recorded during the breeding bird survey for which a Kent Species Action Plan has been written.

GREAT CRESTED NEWT

- B.99 The nearest historic record of Great Crested Newt is approximately 2km south-west of the site.
- B.100 There are four ponds adjacent to the application site that were subject to environmental DNA (eDNA) surveys. All four ponds had poor Habitat Suitability Index (HSI) scores and returned negative eDNA results.
- B.101 The fishing lakes to the south of the northern array were scoped out from the surveys due to high densities of stocked fish, presence of waterfowl and absence of suitable egg-laying plants within the ponds.
- B.102 The hedgerow network as well as the areas of off-site woodland are suitable for terrestrial phase Great Crested Newts, including foraging, commuting and hibernation.

REPTILES

- B.103 Records of Adder, Slow Worm, Common Lizard and Grass Snake were returned from KMBRC. The arable and improved grass fields within the site are sub-optimal for reptiles. Areas of adjacent woodland as well as the wider hedgerow network are optimal habitats for foraging, commuting and hibernating reptiles.

OTHER SPECIES

- B.104 Brown Hare or deer species were not recorded during the surveys, although it is likely that deer are present in the woodlands adjacent to the application site as the habitats are more than suitable for them. Surveys included multiple visits to the site during the spring and if present it would be expected that Brown Hare would have been recorded and is therefore considered to be absent.
- B.105 It is also possible that Hedgehog also occurs in habitats adjacent to the site, although this species was not recorded during the surveys and the site is considered to be unsuitable for this species.

Impact Assessment

Methodology

B.106 The Ecological Impact Assessment (EclA) broadly follows the UK Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' 2019. In order to assess the significance of an impact, the sensitivity of the ecological receptor is considered in association with the magnitude of the impact

Designated Sites

- B.107 There are no direct links between the habitats on site and habitats within the nearest designated sites. Due to the type and scale of the proposals and distances from the designated sites, it is considered that there will be no impact on the designated sites as a result of the proposed development.
- B.108 The proposed scheme will not directly impact on Backhouse Wood Local Wildlife Site, which is immediately west of the site.

Habitats

- B.109 The proposed solar farm development will result in the direct loss of approximately 65.49ha of arable land and sheep-grazed improved grassland. Neither habitat is of significant ecological value and the impact of habitat loss is considered to be negligible.
- B.110 All areas of adjacent habitats including the brook, the East Stour River corridor and all areas of adjacent semi-natural Ancient Woodland will not be directly affected by the proposals.

Fauna

BADGER

10.111 Badgers have been assessed and mitigation proposed within a confidential badger appendix provided to Ashford Borough Council.

DORMOUSE

B.112 No woodland habitat will be directly or indirectly affected by the proposals and access into the arrays will be through existing field gate entrances in hedges that are unlikely to support this species. It is therefore certain that there will be no impact on this species.

BATS

- B.113 No features suitable for roosting bats will be affected by the proposals and the open arable land and improved grassland directly lost to construction works is unlikely to be of importance for foraging bats. Edge habitats including the brook and East Stour River corridor as well as off-site woodlands will remain unaffected by the works.
- B.114 The site will not be lit during operation of the solar farm and as such there will be no operational impacts on foraging and commuting bats.

OTTER

B.115 No evidence of Otter was in habitat areas adjacent to the site, but the brook and East Stour River corridor are suitable habitats for this species. These habitat units will remain unaffected by direct or indirect impacts associated with the construction or operation of the solar farm and as such impacts on this species are not predicted.

WATER VOLE

B.116 No evidence of Water Vole was recorded during any of the surveys completed on the site and it is considered that this species is absent

from the application site. It is therefore certain that this species will not be impacted by the proposals.

BIRDS

- B.117 The proposal will result in the loss of approximately 65.5ha of arable and improved grassland. The only species recorded breeding within the application site were Lapwing and Skylark. It is predicted that the loss of habitat within the solar park will therefore result in loss of breeding habitat for two pairs of Lapwing and between two and three pairs of Skylark. Similar habitats to those being lost are present in the wider area and the two areas of wildflower meadow being created outside of the solar farm will be suitable for both species. It is therefore likely that the residual impacts of habitat loss on Lapwing and Skylark will be neutral.
- B.118 Habitat that is supporting Nightingale, a Kent Priority Species, will remain unaffected by the proposals.
- B.119 Direct impacts on areas of adjacent habitat are not predicted and indirect impacts on the breeding bird assemblage in areas of adjacent habitat as a result of construction related impacts will be short-term (one

breeding season) and reversible. Direct or indirect impacts during operation of the solar park are not predicted.

GREAT CRESTED NEWT

- B.120 Habitats that will be directly impacted by the works are of sub-optimal suitability for use by Great Crested Newts. The four ponds adjacent to the application site that were subject to eDNA surveys returned negative results for presence of Great Crested Newt. The closest known record of this species is approximately 2.0 km south of the site.
- B.121 Great Crested Newts are therefore considered to be absent from the site and no impacts are predicted.

REPTILES

- B.122 The habitats that will be directly affected by the proposals are of limited suitability for reptiles and no impacts are therefore predicted.

Mitigation and Monitoring

Designated Sites

- B.123 There will be no impact on the sites and accordingly no mitigation is proposed.

Habitats

- B.124 All areas of grassland will be managed as wildflower meadow which, once established, will ultimately be subject to an annual hay cut, between September and October. All cuttings will be removed from the site, after which the areas of grassland within the fenced solar farm (e.g. under the panels) will be subject to low-intensity mop-up grazing between September and March. There will be no mowing or grazing of the grassland areas between March and July / August which will allow the meadow flowers and grasses to flower and set seed. The management regime will also ensure that any ground nesting birds are not impacted by the management of the grassland habitat.
- B.125 To protect areas of adjacent habitat from indirect impacts during construction of the scheme as well as maintaining and increasing the biodiversity of the site and adjacent habitats, mitigation measures and safe working methods will be incorporated into the proposals. The brook and the East Stour River corridor will be unaffected by the works and impacts will be avoided through the

implementation of a minimum of a 15m stand-off distance from the site's perimeter fencing and the East Stour River.

B.126 Indirect impacts to watercourses will be prevented during construction by implementing standard pollution control measures, including:

- no construction works to be undertaken within at least 10m of the watercourses, apart from the upgrade of the bridge across the brook and access track laying;
- edges of the solar farm adjacent to watercourses will be fenced with silt barrier fencing to prevent any surface water run-off into the watercourse during construction. The construction areas around the brook crossing will be fenced to prevent run-off into the adjacent watercourse;
- spill kits will be stored within the site compound during and post construction, and all spills will be cleaned up accordingly and if necessary reported;
- all chemical substances and hazardous materials will be stored in accordance with EA guidelines;

- any washing of concreting vehicles will be done well away from any watercourses and/or drainage systems;
- any re-fuelling and re-lubrication will only be completed in an approved area in which a spill kit is available; and
- no dirty water associated with the proposed development will be discharged into the watercourse.

B.127 A Landscape Environmental Management Plan (LEMP) will detail all of the mitigation and enhancement for both habitats and fauna. The LEMP will include details on habitat management works that will be completed throughout the operational phase of the project. Monitoring requirements will also be included within the LEMP along with an adaptive management strategy setting out additional measures to be completed depending on the outcome of the operational monitoring.

B.128 It is recommended that habitat condition surveys are completed in Years 3 and 5 after construction to monitor the rate of grassland establishment as well as to assess the rate of establishment of any trees that have been planted.

Fauna

DORMOUSE

B.129 No impacts are predicted and as such mitigation specific for Dormouse is not recommended

BATS

B.130 Should lighting be required during construction a lighting plan showing the location and specification for any proposed lights on the site will need to be produced and this plan should reflect the Bat Conservation Trust Bats and Lighting in the UK guidance (2018). This will include directing lighting away from all retained trees and hedgerows around the boundaries of the site and other edge habitats to ensure that suitable foraging and commuting habitats remain unlit.

B.131 Any lighting required during the operation of the solar park will be activated by PIR units and timed to go off after a period of five minutes. All installed lighting will be hooded so as not to illuminate edge habitats.

OTTER

B.132 No impacts are predicted on Otter and specific mitigation is therefore not required.

WATER VOLE

B.133 As this species is deemed to be absent from the site, no specific mitigation is required.

BIRDS

B.134 Site clearance works as part of the construction programme will be completed outside of the breeding bird season (March to August inclusive). If this is not possible, the fields should be left un-cropped and if vegetation starts to grow up it should be regularly cut and kept short. If crops are planted and or 'fallow' vegetation is higher than 10cm it is possible that ground nesting species could breed on the fields and works will need to be delayed until the end of the breeding bird season.

GREAT CRESTED NEWT

B.135 Great Crested Newts are considered to be absent from the site and as such no mitigation for this species is required.

REPTILES

B.136 It is recommended that habitat clearance works are completed during the reptile active season (March to October – but subject to breeding bird mitigation proposals) or the fields are left bare over the winter, and that safe working methods are put in place to ensure no reptiles are harmed.

B.137 During construction, any storage of piles of materials and excavated earth on the site should be kept to a minimum and away from the boundaries to deter reptiles from using them for temporary cover.

OTHER SPECIES

B.138 Deer are likely to be present in the off-site woodlands but direct impacts are not anticipated during the construction phase of the works. Indirect impacts are possible as a result of noise and disturbance but are both short-term and reversible. Operational impacts are not anticipated as all suitable off-site habitats will remain unaffected.

B.139 Brown Hare and Hedgehog are considered absent or are unlikely to occur in the project area and as such impacts during construction are not

predicted. Operational impacts are likely to be neutral to minor positive as a result of the suggested habitat creation including grassland, hedgerow and woodland habitats.

Enhancement

B.140 The entire part of the project site under the panels (65.49ha) will be enhanced with native grassland and wildflower mixes. In addition to this a total of 13.6ha of lowland wildflower meadow will be sown on Bested Hill between the perimeter fencing and Church Lane. Grasslands will also be created between the north-eastern part of the eastern array and adjacent woodland.

B.141 A total of 2.2km of new hedgerow will be planted. In addition to the new hedges, existing hedgerows will be improved through planting up of existing gaps resulting in a total of 1.5km of improved hedgerows across the site. This work will create vital habitat links between the woodlands adjacent to the southern and eastern arrays, which will ultimately provide habitats for a range of breeding birds, as well as improving foraging and commuting habitats for small mammals, including Dormice, Badgers and bats.

- B.142 A small area (1.1ha) of low-density woodland will be planted at the southern end of the southern array. Tree species planted will include Oak, Ash, Hazel, Small-leaved Lime, Hornbeam and Holly.
- B.143 Newly planted hedgerows along with the creation of a small area of low-density tree planting will result in habitats with moderate to high ecological value and improved habitat connectivity for wildlife.
- B.144 Riparian meadow will be created along the northern boundary of the southern array, which will ultimately enhance the East Stour River corridor and associated habitats.
- B.145 Besides positive impact of the habitat enhancements mentioned in above, the lack of use of pesticides across the site should increase invertebrate availability further enhancing the site for foraging bats and breeding birds.
- B.146 Further enhancements for bats will be provided through the provision of 15 bat boxes to be installed within the site boundary. These will comprise of five large pole-mounted bat boxes suitable for maternity or hibernation colonies, and 10 smaller multi-purpose woodcrete bat boxes, suitable for summer roosts.

- B.147 The site will be further enhanced through the installation of 10 bird boxes which will be erected on trees within the application boundary. This will include three larger-hole hole nesting boxes suitable for Starling and five smaller-hole hole nesting boxes suitable for a range of common woodland birds (e.g. tits, Nuthatch). Two open-fronted nesting boxes will be installed, as well as two large nesting boxes suitable for Tawny Owl or Kestrel.

Residual Impacts

- B.148 There will be a long-term, permanent major positive increase in grassland / wildflower habitat across the site.
- B.149 Hedge enhancement and planting of new hedgerows and woodland will result in a long-term, permanent, major positive impact to hedgerow network and habitat connectivity.
- B.150 The creation of riparian meadows will have a neutral to minor positive impact on waterbodies. The reduction in fertilisers and pesticides on arable land is likely to have a minor positive impact on the brook and East Stour River.

B.151 Dormouse - The proposed enhancements will result in a significant increase in available habitat and a negligible to minor positive impact on this species.

B.152 Bats - The proposed landscaping plans will result in a significant increase in foraging and commuting habitats for bats. The provision of bat boxes will provide additional roosting opportunities. These enhancement measures will result in a negligible to minor positive impact on bats.

B.153 Otter and Water Vole - No / neutral impacts are predicted on these species. Otter and Water Vole may benefit from the minor positive impact on the brook and East Stour River associated with the reduction in fertiliser and pesticide use on site.

B.154 Birds - Habitat creation, enhancement and management, with the addition of bird boxes will lead to a minor positive impact.

B.155 Great Crested Newt - This species is absent from the site area and as such there are no impacts.

B.156 Reptiles - The proposed landscape plans will increase suitable habitat across the site, resulting in a negligible to minor positive impact on reptiles.



LANDSCAPE AND VISUAL IMPACT ASSESSMENT (CHAPTER 11)

- B.157 This chapter presents the findings of a landscape and visual impact assessment that has been undertaken to identify the likely effects of the proposed East Stour Solar Farm on the landscape character and visual amenity of the locality.
- B.158 Following consultation with Ashford Borough Council ('the Council'), the assessment has concentrated on a 5.0km radius study area (from the site centre) which is considered sufficient to identify all likely significant effects on landscape and visual amenity. The full assessment can be found in **Chapter 11, Volume 2A** of this Environmental Statement and the accompanying Figures (**Volume 3**) and Visualisations (**Volume 4**).

- 11.159 The assessment has examined the effects of the proposed solar farm in the context of the existing landscape and visual baseline which currently contains one operational solar farm within a 5.0km radius, Sellindge Solar Farm. The location of this operational development is shown on **Figure 11.8 (ES Volume 3)** for reference, and has been considered within the baseline of the assessment. No consented or proposed solar developments within the planning process are located within the study area.
- B.160 The assessment process has been based on the current published good practice Guidelines for Landscape and Visual Impact Assessment (LI/IEMA, 2013) and technical guidance for the Visual Representation of Development Proposals (LI, TGN 06/19). The assessment has drawn on information provided within the local development plans and landscape character assessments that cover the study area as well as other relevant guidance documents (see list of references).
- 11.161 The assessment has involved information review, fieldwork observations and photography, and computer-based data processing and analysis

Landscape and Visual Context

Landscape Fabric

- B.162 The proposed solar farm development would be located across five arable and pasture fields. The fields are bounded by a mixture of post and wire fencing, hedgerows and woodland blocks, where the landscape elements within the site itself are the hedgerows forming some field boundaries within the site boundary as well as one mature tree within the Bested Hill site field positioned within the field away from field boundaries.

Landscape Character

- B.163 At a national level, Natural England has divided England into 159 National Character Areas (NCAs). The entire study area falls within NCA 86: South Suffolk and North Essex Clayland.
- B.164 The study area falls within four NCAs: NCA 120, Wealden Greensand; NCA 119, North Downs; NCA121, Low Weald; and NCA 123, Romney Marshes, as illustrated on **Figure 11.2 (ES Volume 3)**. NCA 120 covers the site itself.

B.165 The study area is characterised by a series of more detailed studies. The Landscape Assessment of Kent (KCC, 2004) was undertaken by Jacobs Babbie in 2004 and covers the whole 5.0km radius study area, as illustrated by **Figure 11.2 (ES Volume 3)**. The landscape falls mainly within 11 Landscape Character Areas (LCAs), with the site itself located predominantly within the Upper Stour Valley LCA.

B.166 Descriptions of the National Character Areas (NCAs) and Landscape Character Areas (LCAs) within the site itself and the study area are provided in **Chapter 11, ES Volume 2A**.

Landscape Designations

B.167 There is one national landscape designation located within the study area. This is the Kent Downs Area of Outstanding Natural Beauty (AONB) and its boundary is shown on **Figure 11.5 (ES Volume 3)**. At its closest point, this designation is located approximately 1.3km south and 3.3km north-east of the closest part of the proposed development.

11.168 Natural England protects an AONB so as to conserve and enhance its

natural beauty. AONBs differ from National Parks in that AONBs are not designated for the purpose of promoting opportunities for public enjoyment and understanding of their special qualities by the public, that is, there is not a recreational purpose.

B.169 At a local level, Policy ENV3a (Landscape Character and Design) sets out a series of landscape characteristics that development proposals within the borough must have regard to.

B.170 Policy ENV3b (Landscape Character and Design in the AONBs) broadly seeks to preserve and enhance the natural beauty of the AONBs within the borough in relation to development proposals within these national designations, but also lists a set of circumstances under which proposals affecting the setting of AONBs within the borough would be permitted.

Visual Receptors

B.171 The visual receptor locations within the study area include:

- settlements (Aldington, Smeeth, Stone Hill, Sellindge, Brabourne Lees, Mersham, Brabourne,

Barrowhill, Lymgne, Bonnington, and Aldington Firth);

- individual residential properties (scattered cottages and farmsteads);
- visitor attractions (fishing lakes, Hatch Park and Port Lymgne Wildlife Park);
- long distance recreational routes (North Downs Way National Trail, Saxon Shore Way and Royal Military Canal Path long distance routes, and Sustrans route 2);
- local public rights of way;
- public highways (M20, A20, B2067 and local minor roads); and
- passenger rail routes (HS1).

Visual Analysis

Theoretical Visibility Analysis

B.172 The East Stour Zone of Theoretical Visibility (ZTV) has been generated using a computer-based intervisibility package, the Ordnance Survey Digital Terrain Model (DTM) with height data at 5m intervals and a model of the proposed East Stour Solar Farm. This ZTV is shown at **Plate B.2 on page 45**.

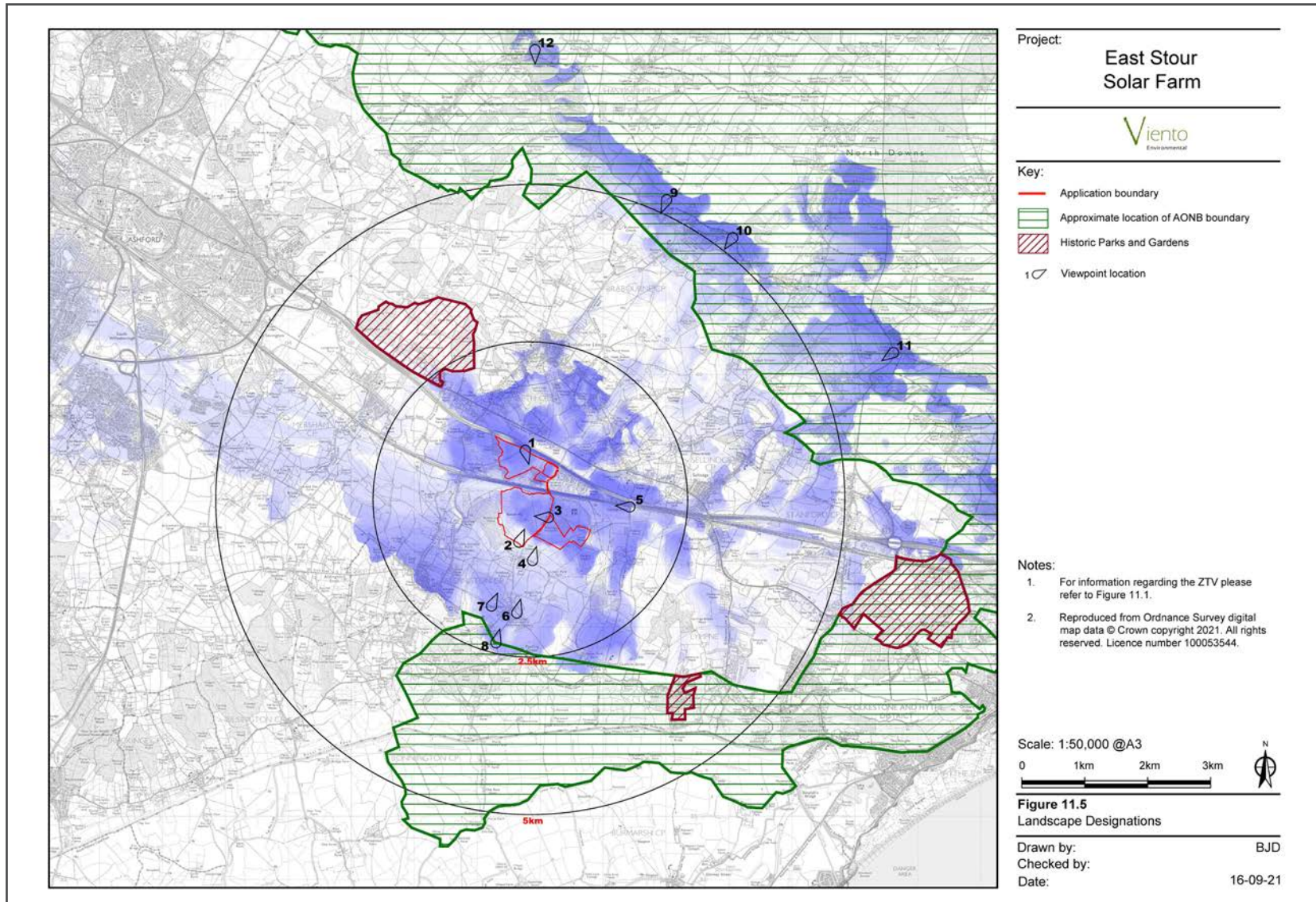


Plate B.2 - Zone of Theoretical Visibility ZTV with Viewpoint Locations and Landscape Designations

(replication of Figure 11.5, ES Volume 3; Not to Scale)

- B.173 ZTV is based on bare terrain topographical data only. It does not take into account the screening effects of minor topographic features, vegetation such as woodland and hedgerows and built structures and therefore tends to over-emphasise the extent of visibility in this type of undulating landscape, providing a worst case scenario.
- B.174 The ZTV does not illustrate the decrease in the scale of the proposal with increased distance from the development which is better illustrated by the viewpoint analysis.
- B.175 A cumulative ZTV (CZTV) has been produced to illustrate the potential visibility of the operational Sellindge Solar Farm in conjunction with the East Stour proposal, as illustrated by **Figure 11.8 (ES Volume 3)** and the locations of these two solar schemes are shown on the CZTV.

Viewpoint Analysis

- B.176 The viewpoints were selected through consultation with officers of the Council and the Kent Downs AONB. These viewpoints were selected to represent the most open views of the proposed solar farm from a range of distances, directions and viewpoint receptor locations, as well as to illustrate a few locations which are outside of the study area requested by the AONB officer.
- B.177 A detailed description of the viewpoint panoramas and the potential changes that would occur to each through the introduction of the proposed development are contained within **Appendix 11.2.**
- Findings of Visual Analysis*
- B.178 In general terms the visibility of the proposed solar farm would be confined to an area local to the proposed site, much in the same way as the existing Sellindge Solar Farm. This is due to the limited height of solar infrastructure, the undulating nature of the local topography and the good levels of vegetation across the landscape, which combine to serve as useful containment and screening tools in combination with the screening provided by the HS1 rail embankment and the M20 motorway embankment and associated mature vegetation.
- B.179 In cumulative terms the viewpoints illustrate clearly that, in most cases, the operational solar farm would not be visible from the same locations as the proposal.
- B.180 The viewpoint analysis has considered the operational solar farm within the baseline, as well as other nearby larger scale development such as the converter station. The ZTV and the viewpoints indicate that there is a core area proximate to the proposal within which the proposed development could be visible. This is an area of very limited extent (approximately 0.05km from the site boundary to the north, 0.7km to the east, 1.2km to the south and 0.3km to the west). Beyond this the proposal would generally be screened from the majority of the study area, with only a few small pockets of visibility from more distant higher ground to the north at distances of over 4.5km away.
- B.181 Taking into account the visual analysis (ZTVs), fieldwork observations and the viewpoint analysis, these findings suggest that the introduction of the proposed East Stour Solar Farm to the baseline would result in a significant change in the view for high sensitivity receptors (e.g. some residents and users of national trails) within approximately 0.75km of the proposed solar farm, high/medium sensitivity receptors (e.g. equestrians, cyclists and walkers on local PRoW network and long distance routes) within

approximately 0.35km of the proposed solar farm, and medium sensitivity receptors (e.g. motorists) within approximately 0.2km of the proposed solar farm. The viewpoint analysis also suggests that a significant effect on landscape character would be limited to within approximately 0.3 – 0.4km of the proposal.

- B.182 Over time the mitigation planting proposals would establish and begin screening parts of the proposal. In many cases, this vegetation would reduce the overall visibility of the proposal, the magnitude of change in the view and the overall effects of the development.
- 11.183 It is also worth noting that there are locations where the proposed development would be largely or entirely screened by topography, built form or intervening vegetation for some receptors, such that views from within these zones would be intermittent in places. The zones of visibility would be much more fragmented than suggested by the ZTV in **Plate B.2 on page 45** (as shown on **Figure 11.1 to Figure 11.7, ES Volume 3**) and the proportion of the proposal that would be visible would be reduced in some

locations. In these instances the magnitude of change in the view and resulting overall effects are also likely to be reduced.

Landscape Assessment

Effects on Landscape Fabric

- B.184 There would be no significant adverse effects on landscape fabric during the construction phase as there would be no removal of hedgerows at key entrance points and no other loss of important, mature, diverse or distinctive landscape components.
- B.185 As the fields are used for arable crops and pasture, there would be minimal loss of ground vegetation as a result of the temporary site compound, new tracks, inverter/transformer units, substations, store/spare/welfare cabinets and cable trenches. Beneath the solar arrays each field would be pasture and so the site fields would all convert to pastureland. Therefore, overall there would not be any significant (adverse or beneficial) effects on landscape fabric as a result of the construction phase.

- B.186 Once the construction phase has been completed, the proposed mitigation measures would be implemented. These measures are illustrated on **Figure 11.9 (ES Volume 3)** and include some sizeable areas of tree and hedgerow planting, hedgerow management to maintain and grow the height of some existing site hedgerows and hedgerow enhancement to gap up and improve some existing site hedgerows. In addition, some areas of wildflower/ riparian/ grassland have been accommodated within the layout to encourage biodiversity. There would be a beneficial effect on landscape fabric as a result of these measures, which would last throughout the operational phase of the proposed development and would be maintained and replaced where necessary through an operational planting management plan.
- B.187 There would be minimal disturbance of landscape features during the decommissioning phase as underground structures below approximately 1.0m depth (e.g. lower parts of the building foundations and cables) would be left in situ and there would be reinstatement of the ground over all ground disturbed by the

works. All the new tree and hedgerow planting measures as part of the application would remain in place. Therefore, there would be a negligible effect on landscape fabric during the decommissioning phase.

Effects on Landscape Character of the Site

- B.188 There would be some short-term effects on the character of the site as a result of the construction phase. Overall, the construction phase would be short-term, with the various activities lasting for only small parts of the overall timescale. The presence of construction machinery and activities would be transient (temporary, short-term and reversible) and ground and vegetation disturbance would be limited. Therefore, the effects of the construction phase would not result in a significant beneficial or adverse effect on the landscape character of the site.
- B.189 The main effects on the landscape character of the site would occur during the operational phase as a result of the presence of the solar panels and associated infrastructure. All these parts of the proposed

development would be located within the Evedgate Mixed Farmlands LCA and the East Stour Valley LCA.

- B.190 The elements of the proposal most likely to be visible across the surrounding area during the initial stages of the operational phase (i.e. solar panels and ancillary infrastructure) would become key characteristics of the site landscape and, although no existing key characteristics would be lost or changed, they would contrast with the existing character such that these elements of the proposal would result in a significant adverse effect on the character of the site landscape.
- B.191 Over time these significant changes to landscape character would diminish to a degree as the mitigation proposals establish and reach maturity. However, across the site itself, these significant changes would still be evident.
- B.192 The decommissioning phase would be very short-term, ground disturbance would be very limited in extent and there would be the removal of the built form and the reinstatement of the ground on completion of the works, which should return much of the site to its current character, albeit with

additional hedgerow and tree planting as well as some slight changes to the heights of hedgerows within the site. The change in character upon decommissioning relative to the current landscape character of the site would be beneficial, but not significant.

- B.193 Therefore, there would be a significant adverse long-term but temporary change in the character of the site landscape for the duration of the operational phase but by the end of the decommissioning phase the site character would have been enhanced for the long-term by the planting proposals.

Effects on Character of the Wider Landscape

- B.194 The viewpoint analysis suggests that there would be no significant adverse effects on the character of the landscape further than approximately 0.3 – 0.4km from the proposed development. Therefore, this indicates that potential significant effects on landscape character would be limited to parts of the Evedgate Mixed Farmlands LCA, the East Stour Valley LCA and the Upper Stour Valley LCA within the locality of the site.

B.195 In the case of the Evegat Mixed Farmlands LCA and East Stour Valley LCA, significant effects (contained within the section of the LCA through the site itself and immediately surrounding the site) would be adverse, direct, individual (rather than cumulative), long-term, temporary and reversible once the proposed development is decommissioned.

B.196 The Upper Stour Valley LCA would experience limited effects, which would be adverse but not significant, direct, individual (rather than cumulative), long-term, temporary and reversible once the proposed development is decommissioned.

Effects on Landscape Designations

KENT DOWNS AONB

B.197 **Figure 11.5 (ES Volume 3)** indicates that the proposal would be almost entirely screened from the southern section of the AONB except for a few limited areas of potential visibility along the AONBs northern boundary close to Aldington. **Viewpoint 8 (ES Volume 4)** illustrates a typical view from this part of the AONB at a distance of 1.7km from the proposed development, showing that in reality extremely limited

potential visibility of the proposal would be available and a negligible adverse magnitude of change is expected, resulting in no significant effects on landscape character at this point.

B.198 Further afield, a distinct scarp slope rises in the distance to the north and it is this section of the AONB where some potential visibility of the proposal is expected. From the lower parts of the scarp slope, within approximately 3.3km and 4.4km of the proposal the elevation of the landform is unlikely to allow any visibility of the proposal. However, from the top of the scarp slope, limited visibility of the proposed development would be possible at distances of over 4.6km away where intervening vegetation allows. **Viewpoints 9 to 12 (ES Volume 4)** illustrate these potential views, seen as part of detailed and panoramic views where the proposal would be a barely discernible element of these views and a moderate/ minor+ or lower adverse effect on landscape character is anticipated. These effects would not be significant.

B.199 Therefore, the proposed development would have no significant effect on the purpose of the AONB, that is, the

ability of the designation '*to conserve and enhance the natural beauty*'.

LOCAL LANDSCAPE DESIGNATIONS

B.200 Given that there would be no removal of landscape fabric elements such as trees or hedgerows and no loss of important, mature, diverse or distinctive landscape components as a result of the proposal, it is considered that the proposed development complies with Policy ENV3a (Landscape Character and Design). In addition, the proposed mitigation measures associated with the application seek to reinforce and strengthen the existing landscape fabric and landscape components within the site.

B.201 As set out above regarding potential effects on the AONB, the proposal would have no significant effect on the purpose of the AONB and would be a barely discernible element within a very limited number of views from the AONB. It is therefore considered that the proposed development complies with Policy ENV3b (Landscape Character and Design in the AONBs), which broadly seeks to conserve and enhance the natural beauty of the AONBs within the borough.

Visual Assessment

- B.202 Visual amenity arises from a visual receptor's experience of the visual world around them and the value they place on a particular view or views. It is possible for a development to result in a significant change in the view from a particular location without resulting in a significant effect on the visual amenity of any receptors if, for example, the location is not accessible to receptors or if the view is acknowledged as having limited value.
- B.203 Significant effects on visual amenity can be perceived as beneficial, adverse or neutral and this depends largely on the perceptions and opinions of the individual receptors and, to a certain extent, on the type of development proposed. The polarisation of public opinion on renewable energy is such that it is difficult to define significant changes in a view as having a definitely beneficial or definitely adverse effect on visual amenity for all members of the public who may experience that view.

Settlements

- B.204 The visual analysis suggests that there could be significant changes in the

view for high sensitivity receptors, such as residents in their properties, within approximately 0.75km of the proposal as a result of the introduction of the proposed solar farm into the current baseline landscape. The villages and hamlets of Aldington, Stone Hill, Sellindge, Brabourne Lees, Mersham, Brabourne, Barrowhill, Lympne, Bonnington, and Aldington Frith are all more than 0.75km from the proposed development. The ZTV indicates no potential visibility of the proposal would be available from Lympne, Bonnington, and Aldington Frith, but does suggest some potential visibility of the proposal may be available from the remaining settlements. However, fieldwork has found that the layering of mature vegetation within the landscape and the additional screening provided by the HS1 and M20 embankments would result in Aldington being the only settlement where visibility of the proposed development would be available for some residents.

- B.205 Aldington is split into two settlements; the modern settlement based around Roman Road and the older settlement based around the church and Church Lane. Both are located on high points of land south of the proposed

development, and **Viewpoints 6 to 8 (ES Volume 4)** illustrate some of the most open views of the proposal from within and close to Aldington (the older settlement section around Church Lane) at distances of between 1.2km and 1.7km from the proposed solar farm. These views illustrate that the northern portion of the site, beyond the HS1 rail line, would be screened from view with an intervening ridge of land south of Partridge Plantation also screening large parts of the eastern portion of the proposal in combination with mature woodland adjacent to this part of the site. The western portion of the proposal over Bested Hill would be the main visible part of the proposal from some northern parts of Aldington (the older settlement section around Church Lane), mainly from those properties adjacent to and north of Viewpoint 6.

- B.206 As the viewpoint indicates, initially a moderate/ slight magnitude of change and a moderate+ effect on the visual amenity of residents would occur, reducing down over time to a moderate effect as mitigation measures establish and provide some further screening to the proposal. Beyond Viewpoint 6 the landform tends to form a plateau

around the church and parts of the village to the south of Viewpoint 6, where built form often obscures the view to the north and in turn any views of the proposed development from within the settlement. Therefore, due to the orientation of properties within the settlement and along Church Lane, only a handful would gain open views to the north, such as is illustrated by **Viewpoint 6 (ES Volume 4)**, where partial visibility of the proposal would be expected and no significant effect on the visual amenity of these residents would occur.

- B.207 The more modern Aldington settlement has some areas of mature woodland immediately north of the settlement which limit views out towards the site, as well as the intervening Backhouse Wood which is a significant area of woodland immediately southwest of Bested Hill. As a result, views of the proposal from this part of Aldington are expected to be extremely limited and resulting in a slight/ negligible or lower magnitude of change, which would not result in a significant effect on the visual amenity of these residents.
- B.208 In cumulative terms Figure 11.8 (ES Volume 3) suggests that the operational

Sellindge Solar Farm would potentially be visible from parts of Aldington. However, as **Viewpoints 6 to 8 (ES Volume 4)** illustrate, the proposed East Stour Solar Farm is entirely screened from view, and so cumulative impacts on residential amenity are not anticipated to occur.

- 11.209 As noted above, significant effects on visual amenity can be perceived as beneficial, adverse or neutral and this depends largely on the perceptions and opinions of the individual receptors and, to a certain extent, on the type of development proposed. Therefore, these predicted significant effects on visual amenity could be perceived as positive or negative by these residents depending on their personal opinion of renewable energy developments.

Individual Residential Properties

- B.210 There are a limited number of residents within farmsteads and individual properties local to the proposed development who may gain near and open views of the proposal. The three closest residential properties are Partridge Farm (approximately 100m east of the proposal), Bested House

(approximately 150m from the proposal) and The Paddock (approximately 150m south of the proposal). Partridge Farm is a landowner property situated on the east side of the farmyard with a series of large agricultural barns located immediately adjacent to the property that would entirely screen any views of the proposal from the property.

- B.211 Potential visual effects on Bested House and The Paddock are discussed below. Potential visual impacts on residential properties in the wider area are described in **Chapter 11, ES Volume 2A**.

BESTED HOUSE

- B.212 Bested House is located adjacent to Church Lane. This two storey property is broadly orientated in a south-west/north-east position, with a number of single storey outbuildings and a garage (with office space located above) positioned to the north and east of the main property.
- B.213 The property was visited as part of fieldwork and this visit confirmed that ground floor views of the proposed development from the property itself would be limited due to the existing vegetation along the boundaries of

the property. The proposal has been set back from Bested House to the south so that even in winter months when the hedgerow along the southern boundary is not in leaf, the proposal would be oblique to the main ground floor views.

B.214 Overall, the main visibility of the proposal would be from south facing upper storey areas of the property, with some further partial visibility of the eastern portion of the proposal available from some garden areas where intervening vegetation allows. This garden visibility would initially result in a moderate magnitude of change in winter months, and a major/ moderate effect on visual amenity. However, once the new boundary hedgerow has established, these views would be screened and no effect on the visual amenity of these residents is expected. Ground floor views from the property are much more limited, as described above, and a slight or lower magnitude of change and a moderate effect would be expected initially, reducing down to no effects once the hedgerow has established and would screen any views of the proposal entirely.

B.215 In cumulative terms, no ground floor or garden views of Sellindge Solar Farm are available due to the screening effects of outbuildings and mature vegetation. However, some limited upper storey views of the existing development are available from some north facing windows where the outbuildings do not intervene, seen in the context of the HS1 rail line and converter station behind. The orientation of the property means that these views are entirely separate to the views of the proposed development.

THE Paddock

B.216 The Paddock is a single storey property located approximately 150m south of the western portion of the proposal by Bested Hill. The property is orientated broadly south-west/ north-east with parking located to the immediate east of the property and garden areas located to the west and south. The northern boundary hedgerow of the property curtilage is located almost immediately north of the property and it is this façade of the property that faces towards the proposed development.

B.217 The low set position of the property adjacent to a mature hedgerow

along its boundary means that views north across the site are limited by the landform and this foreground hedgerow, given that this is a single storey property. Views from some garden areas mainly to the west of the property would also gain some visibility north to Bested Hill and the site, although again this is partly limited by existing vegetation along the northern property boundary. Whilst visibility of the proposal would be limited, it would be relatively proximate and on rising land, where initially a moderate magnitude of change is expected and a significant effect on the visual amenity of these residents would occur.

B.218 A new hedgerow is proposed along the southern boundary of Bested Hill, which is located on higher ground than The Paddock, and an area of low density woodland is proposed along the southern boundary of the proposal, as well as a hedgerow adjacent to the southern fence line of the proposal. Over time, these measures would entirely screen the proposal from The Paddock, with this planting anticipated to take approximately 5-7 years to begin to effectively screen the proposal.

B.219 In cumulative terms, Sellindge Solar Farm is entirely screened from view from this property by intervening topography, built form and vegetation.

Visitor Attractions

B.220 There are a few leisure facilities and visitor attractions within the study area including Aldington Races, a few fishing lakes, Hatch Park deer park and Port Lympne Wildlife Park.

B.221 The ZTV in **Figure 11.6 (ES Volume 3)** suggests no potential visibility of the proposal from Hatch Park deer park or Port Lympne Wildlife Park.

B.222 Aldington Races is a point to point event occurring once a year on Easter Monday. The circular route of the event crosses fields immediately south of the eastern section of the proposal where some visibility of this part of the proposal would be available for both horse riders and spectators, although the focus of the event would be on the races. Nevertheless, at worst the proximate visibility of part of the proposal would initially result in a substantial/ moderate or moderate magnitude of change and a significant effect on these high sensitivity receptors. However, planting proposals of new hedgerows with

scattered hedgerow trees along the southern boundary of the eastern part of the proposal would in time provide some screening to parts of these views. Depending on the position of the visual receptor around this point to point course, at best the mitigation planting would entirely screen their view of the proposal (as indicated by **Viewpoint 4, ES Volume 4**) or at worst, would reduce the visibility of the solar panels so that a moderate/ slight or slight magnitude of change would be expected at Year 10, resulting in a moderate+ or moderate effect on receptors, which would not be significant. In cumulative terms, fieldwork found that Sellindge Solar Farm is not visible from the point to point course.

B.223 The nearest fishing lake to the site is a private members lake located immediately south of the northern portion of the proposal and west of the converter station. The lake is surrounded by mature woodland but is accessed along a track from Church Lane meaning that visitors would drive in the vicinity of the proposed solar farm to access the lake. Once at the fishing lake they would gain no visibility of the proposal. Therefore, whilst they would gain short-lived and glimpsed views of

part of the proposal on their way to the lake, no visibility of the proposal would be available during fishing and so no significant effect on the visual amenity of these receptors would occur. In cumulative terms, the Sellindge Solar Farm is shown on the CZTV in **Figure 11.8 (ES Volume 3)** as not visible in combination with the proposal from this fishing lake. Therefore, no cumulative effects with the proposed development are expected.

Long Distance Recreational Routes

B.224 There are four long distance recreational routes within the study area, as shown on **Figure 11.6 (ES Volume 3)**, some of which are located at a distance from the proposed development. This figure also illustrates that of these routes, the proposed development would be screened entirely from The Royal Military Canal Towpath and Sustrans Route 2, although some limited potential visibility of the proposal may be available from the Saxon Shore Way and North Downs Way.

B.225 The Saxon Shore Way travels through the south of the study area at a distance of approximately 1.5km from the proposed development at its

closest point. As the ZTV indicates, for the vast majority of this route within and close to the study area, the proposed development would be entirely screened. However, for a 1km section of the route in the vicinity of Aldington, potential visibility of the proposal is predicted. **Viewpoint 8 (ES Volume 4)** is located on this section of the route and illustrates that at a distance of 1.7km away a negligible magnitude of change and a minor+ effect on the visual amenity of these walkers is expected due to the very limited potential visibility of the proposal.

B.226 The North Downs Way is a National Trail located just beyond the study area, although **Figure 11.6 (ES Volume 3)** indicates that some potential visibility of the proposal would be available from several sections of this route at distances of over 4.6km away. Fieldwork verified this to be the case, with **Viewpoints 9 to 12 (ES Volume 4)** all located on this National Trail at distances of between 4.6km and 6.2km from the proposal. Each of the viewpoints illustrates the open, panoramic and wide ranging views available from the section of the North Downs Way in the vicinity of the study area. The wealth of mature woodland

within these views is also important to note, as it is these woodland blocks which would recurrently screen large parts of the proposal from view. As the solar panels would be orientated to slope down to the south, it is the rear of the proposal that would be discernible from this long distance route to the north and, as such, the solar farm would be viewed as a dark swathe amongst interlocking woodland blocks and would generally not be definable as a solar development within this context. As a result, a moderate/minor+ or lower effect on the visual amenity of walkers would be expected along some limited sections of this route, where no significant effect on the visual amenity of these walkers would occur.

B.227 In cumulative terms, the CZTV in **Figure 11.8 (ES Volume 3)** suggests the operational Sellindge Solar Farm would be visible from part of the Saxon Shore Way and the North Downs Way. However, viewpoint analysis indicates that it is entirely screened from view by intervening vegetation. Therefore, no cumulative effects on walkers on these routes would occur as a result of the proposed development.

Local Public Rights of Way

B.228 There is a network of public byways, footpaths and bridleways in the study area, including some footpaths crossing through the site itself and some footpaths just outside of the boundary of the site, as indicated on **Figure 11.7, ES Volume 3**. It is worthwhile noting that there are no bridleways or byways within 2.5km of the site centre and so the following text focusses on walkers (as horse riders and cyclists can only use bridleways and byways).

B.229 Public rights of way in the landscape local to the site (including Footparhs AE432, AE437, AE457, AE459 and AE656) vary between enclosed character, partially enclosed and open, depending on the undulating landform and vegetation levels local to the route. As a result, visibility of the proposal would vary from different routes, but also from different sections of the same route. This has been summarised within **Chapter 11 (ES Volume 2A)** for some of the closest routes to the proposal, but is also illustrated by a number of the viewpoints. **Viewpoints 1, 2, 4, and 6-12 (ES Volume 4)** are

all located on the public rights of way network at distances ranging between 0.02km and 6.2km from the proposal, and from sections of the majority of these routes the proposal would be entirely screened, even some of those closest to the site. The viewpoints have sought to illustrate some of the most open and worst case views of the proposal. Of these viewpoints, VPs 1 and 2 are both located within 0.1km of the proposal and indicate a significant effect on the visual amenity of walkers would occur initially. However, the establishment of mitigation measures associated with the application would remove impacts at Viewpoint 2 entirely by Year 10.

- B.230 Viewpoint Analysis has suggested that approximately 0.35km from the site would be the limit of significant effects on the visual amenity of walkers initially post construction.
- B.231 In cumulative terms fieldwork found that the operational Sellindge Solar Farm is visible from very few of the public right of way routes local to the site due to its position nestled adjacent to the HS1 rail line and surrounding woodland. None of the viewpoints from public rights of way show any visibility of the development. Furthermore,

fieldwork noted that Footpath AE656 was not accessible in the vicinity of the solar farm so that proximate views of the development were unavailable. No significant cumulative effects on users of the rights of way network is expected.

Public Highways

- B.232 Public highways in the 5.0km radius study area include the M20, A20, B2067, and a network of minor roads. The viewpoint analysis has predicted that, for medium sensitivity receptors, such as motorists and their passengers, significant changes in the view are unlikely to occur more than 0.2km from the proposed development.
- B.233 The M20 motorway and Church Lane are the only two roads within 0.2km of the proposed development. It is also useful to note that the A20 is located to the north of the M20 and so fieldwork has found that the embankments and mature vegetation associated with the motorway would entirely screen the proposal from view.
- B.234 Fieldwork has also found that in summer months the mature vegetation alongside the M20 would screen the proximate views of the proposal that

may be available from the M20 in the vicinity of the site. However, in winter months some filtered views through the roadside tree belts may be available in the vicinity of the converter station, where split second glimpsed views of the northern portion of the proposal and the western portion over Bested Hill may be available to the side of the direction of travel for those travelling towards Ashford. Nevertheless, this extremely short-lived visibility in the vicinity of views of the converter station and nearby pylons would not result in a significant effect on the visual amenity of these motorists whose main focus would be on the road itself. No cumulative visibility with Sellindge Solar Farm would be available due to its position behind the rail embankment and converter station.

- B.235 Church Lane crosses between the western and eastern portions of the site, with a part of the western portion of the proposal located directly adjacent to the road. Roadside hedgerows line much of the length of Church Lane, although a section of hedgerow has been removed (likely for safety purposes) close to the point that the route crosses under the HS1 rail line, as the road turns sharply (this reduced

height would be maintained through the lifetime of the proposal). Therefore, a small section of the proposal would be openly visible in the field to the west (left) of Church Lane where the hedgerows have been removed, and also over roadside hedgerows within the Bested Hill field. South of Bested House the proposal is located to the east of Church Lane, approximately 150m set back from the roadside and would be partially visible over the roadside hedgerows here. This visibility along a 1km stretch of Church Lane would initially see the proposal in the foreground and middle distance, where a significant effect on the visual amenity of these road users would occur. Various mitigation measures are proposed, including improving some of the existing hedgerows along Church Lane which are gappy and thin in places, but also increasing their height to approximately 1.5m to match other hedgerows along this road. In addition, improvements to the hedgerow along the eastern boundary of the Bested Hill field are proposed, and new hedgerows are proposed along some parts of the proposal visible from Church Lane. As a result, as illustrated by the mitigation montages on **Viewpoint 3 (ES Volume 4)** on Church Lane, these

measures would lessen the visibility of the proposal from this road over time. Nevertheless, some proximate visibility of the proposal would still remain available, mainly in the vicinity of the section of the route close to the HS1 rail line, where a significant effect on the visual amenity of motorists would occur.

- B.236 Sellindge Solar Farm is also located close to this route and close to the rail line although it is also set back from the roadside and roadside hedgerows screen the vast majority of any visibility of the solar farm from the road. A gated entrance does allow a split second view of the existing solar farm but this is located on a bend where drivers are generally focussed on the road ahead and no significant cumulative effects with the proposed solar farm are expected to occur for users of Church Lane.
- B.237 A network of local roads service the study area, although none are particularly proximate to the site (except for Church Lane) and viewpoint analysis indicates predicts no significant effect on the visual amenity of motorists or their passengers. In cumulative terms, roadside hedgerows or built form are a characteristic feature of most roads

within the study area and so views out from local roads are often not available. As a result, no significant cumulative effects for motorists are anticipated.

Passenger Rail Routes

- B.238 HS1 and local rail services run centrally through the study area and divide the northern portion of the proposal from the western and eastern portions. Much of the route is on an embankment through the study area, with several areas of mature vegetation associated with the route. Nevertheless, especially in winter, some limited visibility of the proposal, mainly to the south of the rail line may be available. Given the speed of travel on this route, these would be extremely short-lived views, seen in association with pylons, Sellindge Solar Farm and also the nearby converter station, where at worst a moderate/ minor effect on the visual amenity of passengers would occur, resulting in no significant effect.
- B.239 From the perspective of rail passengers, the visibility of the operational solar farm in conjunction with the proposed solar farm would be concurrent and would seem linked; as an extension of the existing panels.

Residual Impacts

B.240 Through careful site design the significant effects of this proposal would be limited to:

- The character of the landscape of the site and surrounding area up to approximately 0.3 – 0.4km from the site. This is contained to parts of the Evegate Mixed Farmland LCA and the East Stour Valley LCA. Over time mitigation measures associated with the application would limit these significant effects even further.
- The visual amenity of some residents within a few individual residential properties local to the proposal. Mitigation planting measures have been proposed, where feasible, to further screen the proposal and once established these measures would begin to add further filtering and screening of views of the solar panels from these properties.
- The visual amenity of users of a few sections of public rights

of way local to the site (mainly the footpaths through and adjacent to the site itself). Some mitigation planting measures have been proposed to further screen the proposal and once established these measures would begin to add further filtering and screening of views of the solar panels.

- The visual amenity of users of a limited section of Church Lane immediately adjacent to the site. Over time mitigation measures associated with the application would reduce these significant effects further.

B.241 There would not be any significant adverse effects on landscape fabric, landscape designations or any of the other LCAs located within the 5.0km radius study area. There would be no significant effects on the visual amenity of the vast majority of residential receptors within the study area, or on the visual amenity of visitors to any of the visitor attractions, long distance footpath users or rail passengers within the study area.

B.242 Furthermore, over time the proposed mitigation measures within the site would establish and begin to provide increased filtering and screening of views of the proposal within the area local to the site, strengthening the local landscape fabric in the locality.

B.243 Therefore, it is considered that the significant effects on landscape and visual amenity as a result of the proposal would be very limited in this location.



ARCHAEOLOGY AND CULTURAL HERITAGE (CHAPTER 12)

- B.244 This chapter presents the findings of the assessment of likely significant effects of the construction, operational and decommissioning phases of the scheme in terms of archaeology and cultural heritage. It has been prepared by Orion Heritage Limited. The full assessment can be found in **Chapter 12, Volume 2A of this Environmental Statement**. It incorporates the results of a historic environment desk-based assessment (HEDBA) contained within **Appendix 12.1, ES Volume 2B** and the results of a geophysical survey of the site (**Appendix 12.2 , ES Volume 2B**).
- B.245 The historic environment includes a wide range of features resulting

from human intervention in the landscape, varying in scope from buried archaeological remains, to late 20th century industrial and military structures. It can be broadly divided into the following two categories:

- Archaeology - which comprises Scheduled Monument (SMs) and non-designated archaeological heritage assets; and
- Built Heritage - which comprises listed buildings (all grades), non-designated buildings of heritage interest, registered parks and gardens (all grades), conservation areas, historic battlefields and World Heritage Sites (WHS).

- B.246 The study area for the archaeological and setting assessments extends up to 1km from the site boundary.
- B.247 The desk-based assessment has been undertaken in line with the Standards and Guidelines for Historic Environment Desk Based Assessments (ClfA, 2017).
- B.248 A geophysical survey was completed in November 2021 following the Standards and Guidelines for Archaeological Geophysical Survey (ClfA, 2014) across the c. 102ha site

area. The survey was undertaken using a fluxgate gradiometer.

- B.249 Information on historic archaeological investigations on and surrounding the site was also accessed during the desk based assessment.
- B.250 The nature and likelihood of the short and long term impacts of the scheme on archaeological and heritage features is assessed against clearly defined criteria.

Baseline Conditions

- B.251 The site is located within the East Stour River valley and is considered to have a moderate to high potential to contain archaeological finds and features from all prehistoric periods, except for the Palaeolithic, for which a low to moderate potential is considered.
- B.252 The site contained a number of non-designated archaeological assets recorded on the Kent Historic Environment Records (HER), including a windmill mound and a medieval silver coin findspot. Geophysical survey of the area has identified no evidence of those assets remains.
- B.253 The fluxgate gradiometer survey detected anomalies of archaeological

origin, with possible rectilinear enclosures, ring ditch and field systems identified in the centre and east, and more disjointed linear and curvilinear anomalies identified in the south-east and east. The potential archaeological resource detected is considered likely to be of local to regional significance. As such, there is considered to be low potential for remains of national significance that would pose a design or planning constraint.

- B.254 No statutory designations (Scheduled Monuments) are located within the site.
- B.255 The site does not fall within or near a Conservation Area, Registered Parks and Gardens, Registered Battlefields and World Heritage Sites. The site does not contain or lie immediately adjacent to a listed building.
- B.256 Within the 1km study area, the following designated assets are recorded: Aldrington Church Conservation Area, Smeeth Conservation Area, two grade I listed buildings, two grade II* listed buildings and 37 grade II listed buildings. These lie between 250m and 1km from the application site. The area beyond this buffer was also reviewed and no sensitive designated heritage assets were identified as requiring assessment.
- B.257 The assessment identified the following assets as being potentially sensitive to indirect change by the proposal:
- Aldrington Conservation Area;
 - Church of St Martin (GI), c. 1km south of the site;
 - Court Lodge Farmhouse (GII*), c. 1km to the south; and
 - Evegate Manor (Grade II*), c. 550m west of the site.
- B.258 No locally listed heritage assets have been identified that have the potential to be affected by the scheme.
- B.259 The site contains no structures and the assessment has identified no non-designated heritage assets that have the potential to be affected by the scheme.

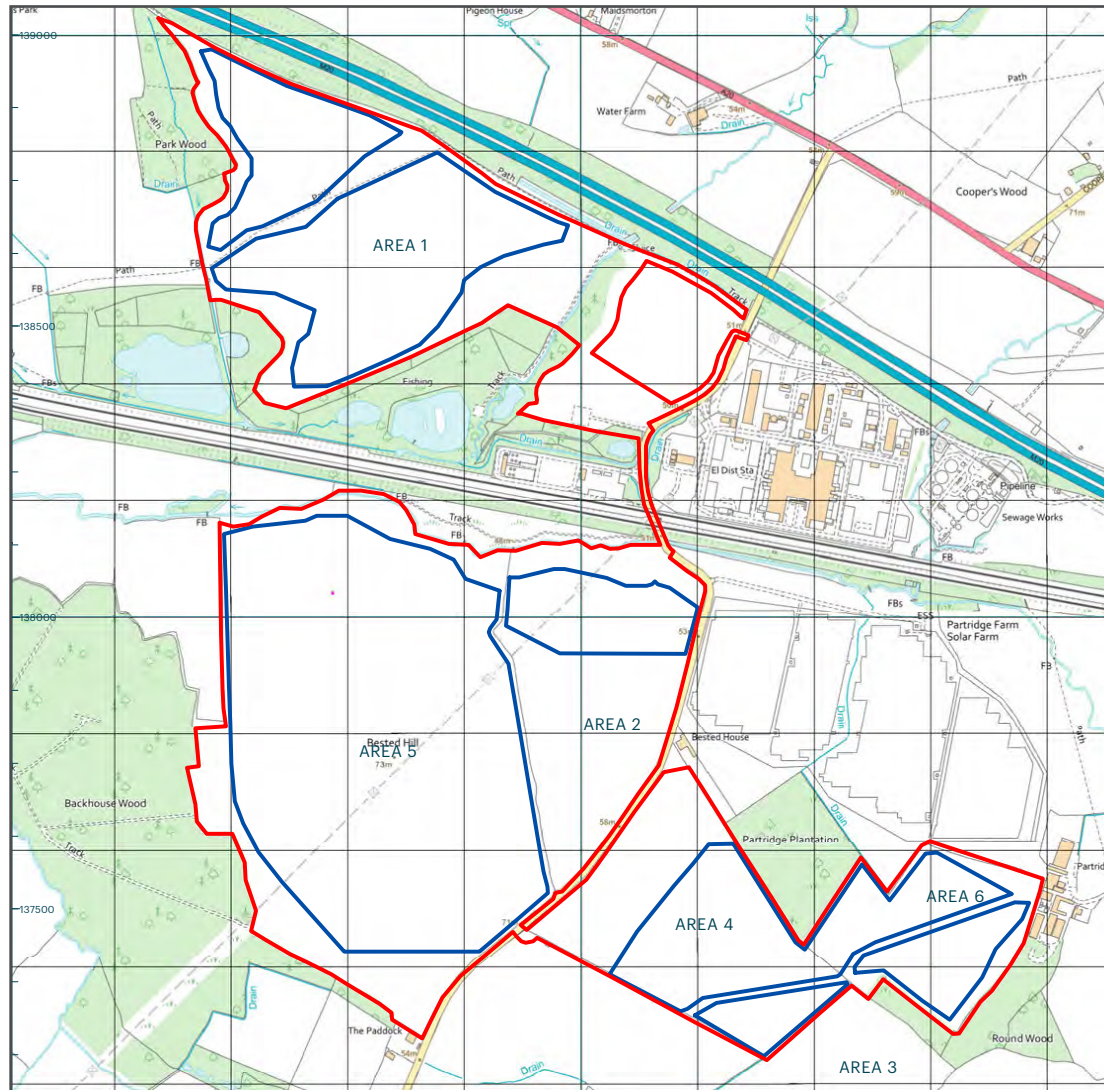
Assessment of Likely Effects

Construction and Decommissioning

- B.260 The scheme has been designed to avoid the construction of solar panels across the entire site.
- B.261 The heritage desk-based assessment and the geophysical survey conclude that the site is considered to have a high potential for finds and features

of prehistoric – Romano-British (or medieval to post-medieval) occupation across Area 5 (**Plate B.3**). Taking into consideration past impact, based on available evidence, this potential archaeological resource is considered likely to be of local to regional, rather than national, heritage significance. No substantial groundworks are proposed in this area, and impacts are restricted to the erection of the panel piles. A Minor, not significant effect is predicted.

- B.262 The site is considered to have high potential for prehistoric occupation evidence in the centre of Area 2 (**Plate B.3**). This area will be largely retained as open space, which serves to preserve in situ identified archaeological remains in this area. Taking into consideration the proposed retention of the majority of the archaeological site and the limited impact of the proposed solar panels, the effect is considered Negligible and not significant.
- B.263 The impacts of the construction/ decommissioning of the scheme on surrounding designated and locally listed heritage assets will be similar to those described for the operational stage, albeit of a much shorter duration.



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Plate B.3 - Heritage Assessment Areas (red line - site boundary; blue line - solar panel areas)

Operation

- B.264 It is anticipated that there will be no operational and maintenance direct impacts on buried archaeological assets, as impacts would occur during the construction phase.
- B.265 The operation of the scheme would potentially have indirect impacts on the setting of designated assets of national importance within the wider study area. That is, the scheme may be experienced visually within the settings of these assets and consequently may have an effect on the contribution that the settings have to the heritage significance of those assets.

ALDINGTON CONSERVATION AREA - CHURCH AREA, AND CLAP HILL

- B.266 There is no intervisibility with the study site owing to distance, intervening built form and tree-screening. It is considered that the development will cause the lowest levels of less than substantial harm to the Church of St Martin and Court Lodge Farm House, which in turn impacts on the significance of the Aldington – Church Area Conservation Area, generating harm at the lowest level of less than substantial: Minor-Negligible and not significant.

CHURCH OF ST MARTIN (GRADE I)

B.267 The proposed solar farm would mean that views of the church tower will still be possible from parts of the application site but will be seen in the context of the solar farm. Due to this change, the contribution that this view makes to the significance of the church will be reduced, but not removed entirely. The effect of the proposed development on the view from the application site towards the church is considered to have a very minor visual impact on the setting of the church. It is considered to be a less than substantial harmful effect on the lowest end of the scale: Minor-Negligible and not significant.

COURT LODGE FARMHOUSE (GRADE II*)

B.268 Under the proposed development the field boundaries would remain intact, therefore the legibility of historic field parcels remains unchanged, leaving the illustrative historic value to Court Lodge Farmhouse unaffected. It is considered that the proposed development would therefore have a negligible visual impact which equates to the lowest level of less than substantial harm: Negligible and not significant.

EVEGATE MANOR (GRADE II*)

B.269 Due to vegetation and topography, there are no views of the application site from the house. The historic ownership link with the application site's northern area has since been severed, with no contemporary connection to the site. Therefore, the application site does not contribute to the significance of the farmhouse and the proposed development would have an impact of no harm on the asset's significance.

Cumulative Effects

Construction and Decommissioning

B.270 Due to the physical localised character of sub-surface archaeological remains, construction of 'other developments' will generally not result in cumulative direct impacts on designated or non-designated archaeological assets. The exception to this are archaeological deposits which extend beyond the development site which would be impacted by removal of contemporary deposits by development in the immediate vicinity. The potential for archaeological deposits to extend substantially beyond the limit of the East Stour site and be impacted by

'other developments' is considered low. No cumulative effects are identified.

Operation

B.271 No significant adverse effects have been identified in relation to the setting of heritage receptors. No cumulative effects are therefore identified.

Mitigation, Monitoring and Enhancement

B.272 It is anticipated that a programme of archaeological evaluation will be required as a condition of planning to confirm the results of this assessment and supplement the existing record of the archaeological resource within the application site.

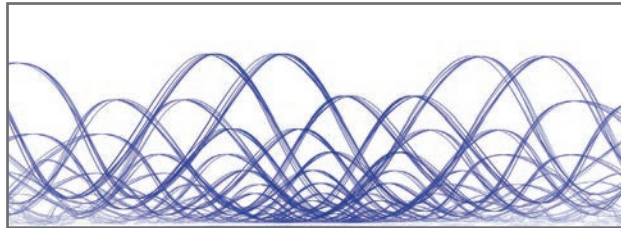
B.273 This would also allow an appropriate strategy for the conservation of the archaeological remains to be developed and agreed with the LPA, either by exclusion, protection via concrete foundations, archaeological recording, or a combination of these approaches.

B.274 No further mitigation or enhancement is proposed in relation to the operational phase of the development.

B.275 No significant adverse effects have been identified and therefore no monitoring is proposed.

Residual Impacts

- B.276 No designated assets will be directly impacted by the proposed development.
- B.277 The implementation of the programme of archaeological work at the application site will result in the preservation by record of archaeological deposits impacted by the proposed development. The resulting research will contribute to the increased knowledge and understanding of the landscape and settlement evolution of the wider area. This is considered to slightly reduce the overall effects on archaeology to Negligible - Minor Adverse, not significant in EIA terms.
- B.278 No significant adverse effects have been identified in relation to the setting of heritage receptors



NOISE (CHAPTER 13)

- B.279 This Chapter provides an assessment of the noise and vibration impacts associated with the East Stour Solar Farm. The assessment, prepared by Ion Acoustics Limited, considers construction noise, operational noise and the cumulative impacts arising from other developments in the area. The full assessment can be found in **Chapter 13, Volume 2A** of this Environmental Statement, and accompanying **Appendix 13, ES Volume 2B**.
- B.280 Construction noise impacts have been considered in line with British Standard BS 5228-1 and include indicative noise calculations for activities associated with construction phase traffic movements and the construction of the frame supports for the solar panels.
- B.281 Solar farms are not normally considered noisy. Nevertheless, various electrical components, such as inverters and transformers, can emit low levels of noise and can include fans for ventilation and/or cooling/ heating etc. Typically, these noise generating elements are positioned away from the perimeter of the solar farm, increasing the distance between the noise source and the nearest receptor locations. Noise levels are rarely audible outside of the site boundary.
- B.282 Operational noise levels from the proposed solar farm have been predicted to the nearest noise sensitive receptor locations in accordance with the methodologies detailed in International Standard ISO 9613-2 and compared with absolute noise limits derived from recognised national and international guidance.
- B.283 Given that the separation distance between the site and receptors is generally more than 100m, the significance of any perceived vibration is considered to be low. As such, no further consideration is given to ground-borne vibration.

Predicted Effects

B.284 The closest receptor is Partridge Farm, which is approximately 91m from the nearest frame location. Partridge Farm is financially involved in the project, with the solar farm being built on land owned by the farmstead. The rest of the receptors are at distances more than 100m from the nearest frame structure.

Construction Phase

B.285 Noise calculations relating to the construction of solar panel frames indicate that the worst affected property (Partridge Farm) may see noise levels from construction activity in the order of $LA_{eq,T}$ 54dB. This would fall within the BS 5228-1 noise criteria during the daytime, evening and weekend periods. It is noted that the calculations represent activity at the closest point to the receptors, which is unlikely to occur for more than one day as the construction work will progress fairly quickly. Note also that there is no shielding assumed in the calculations.

B.286 With regards to construction phase traffic the assessment indicates very little change in road traffic noise

level, even for Church Lane where the increase would be less than 1dB for dwellings in the immediate vicinity. Overall, the change in road traffic noise would be considered negligible according to BS5228 and the Design Manual for Roads and Bridges (DMRB) guidance.

Operational Phase

B.287 The predicted specific noise levels are very low at the identified receptor locations. The levels are sufficiently low to assume that any distinguishing features i.e. tonal content or intermittency, would be masked by other environmental noise: road traffic noise, train noise, bird song, wind noise etc.

B.288 The assessment demonstrates that the predicted rating noise level from the proposed solar farm, while operating at 100% capacity would generally not exceed the proposed noise limits. The exception to this is Bested House, where the predicted rating noise level is 1dB above the noise limit. Notwithstanding this, the predicted noise level, in absolute terms, is very low and the limits are derived from World Health Organisation (WHO) guidelines

to protect sleep during the night-time period and also not significant in terms of BS4142. It is likely that the solar farm will only operate at 100% during full sun during the daytime.

Cumulative Impacts

B.289 No noise assessment was submitted with the planning application of the operational solar farm adjacent to the proposal, or any of the subsequent amendments to the consent. As such, it is not possible to assess cumulative noise impact arising from the development. However given that the worst case element of noise is associated with the construction phase, which has already taken place for this scheme, limited impact is anticipated.

Mitigation

B.290 The assessments demonstrate that noise during the construction phase would not exceed the relevant noise limits derived from both BS5228 and the DMRB. Notwithstanding this, some impacts may occur at the closest receptor locations depending on the specifics of the construction programme.

- 13.291 It is recommended that public engagement be undertaken to alert local residents to the planned construction works and provide contact details for a site manager should any noise related complaints arise.
- B.292 'Best Practicable Means' should be employed across the construction phase to ensure impacts are minimised. These measures will be detailed in the CEMP. Examples include turning off equipment when not in use, and push driving panel frame supports as far as possible.
- B.293 No noise mitigation measures are proposed for the operational phase of the development given the very low predicted noise levels.

Residual Impacts

- B294 While there may be some noise impacts during the construction phase, with detailed consideration within the CEMP the impacts are expected to be negligible given the short duration of the construction programme.
- B295 Operational noise from the solar farm would generally fall well below the proposed noise limits which are, in turn, significantly below the level at which sleep disturbance etc is likely to occur in accordance with the WHO Guidelines. Given this, the impact of operational noise is considered to be negligible.
- B296 The exception to the above is the predicted noise levels at Bested House, where predicted noise levels would be 1dB above the noise limit, giving a minor impact which is not significant in terms of BS4142.



GLINT AND GLARE (CHAPTER 14)

- B.297 This chapter considers the potential glint and glare impacts on ground-based receptors such as roads, rail and residential dwellings as well as aviation assets. The full assessment, conducted by Neo Environmental Limited, can be found in **Chapter 14, Volume 2A** of this Environmental Statement and accompanying **Appendix 14, ES Volume 2B**.
- B.298 Solar panels are designed to absorb as much light as possible and not to reflect it. However, glint can be produced as a reflection of the sun from the surface of the solar PV panel. This can also be described as a momentary flash. This may be an issue due to visual impact and viewer distraction on ground-based receptors and on aviation.

- B.299 Glare is significantly less intense in comparison to glint and can be described as a continuous source of bright light, relative to diffused lighting. This is not a direct reflection of the sun, but a reflection of the sky around the sun.
- B.300 Glint and glare are essentially the unwanted reflections of sunlight from reflective surfaces. The study used a multi-step process of elimination to determine which receptors have the potential to experience the effects of glint and glare. It then examined, using a computer-generated geometric model, the times of year and the times of day such effects could occur. This is based on the relative angles between the sun, the panels, and the receptor throughout the year.
- B.301 A desk-based assessment was undertaken to identify when and where glint and glare may be visible at receptors within the vicinity of the proposed development, throughout the day and the year.
- B.302 A 1km study area around the Application Site is considered adequate for the assessment of ground-based receptors, whilst a 30km study area is chosen for aviation receptors.

Impact Assessment

- B.303 Geometrical analysis comparing the azimuth and horizontal angle of the receptors from the proposed development and the solar reflection was conducted. Although this assessment did not take into account obstructions such as vegetation and buildings, discussion on the potentially impacted receptors is provided where necessary.

Residential Receptors

- B.304 Of the 62 residential receptors identified within the 1km study area, 26 receptors were located within the no-reflection zones and have therefore been excluded from the detailed modelling, as they will never receive any glint and glare impacts from the proposed development.
- B.305 The assessment concludes that solar reflections are possible at 29 of the 36 residential receptors assessed within the 1km study area. The initial bald-earth scenario identified potential impacts as High at 29 receptors and None at the remaining seven receptors. Upon reviewing the actual visibility of the receptor, glint and glare impacts

reduce to Low at two receptors and None at 34 receptors. The effects from the proposed development are therefore not significant.

Road Receptors

- B.306 There are seven roads within the 1km study area that require a detailed Glint and Glare Assessment: Church Lane, Bower Road, Station Road, Goldwell Lane, Haringe Lane, the M20 and Hythe Road (A20). There are some minor roads which serve dwellings; however, these have been excluded from assessment as vehicle users of these roads will likely be travelling at low speeds and therefore, there is a negligible risk of safety impacts resulting from glint and glare of the proposed development.
- B.307 Within those roads, a total of 69 receptor points were considered within the assessment. Eighteen of these road receptor points were located within the no-reflection zones and have been excluded from the detailed modelling.
- B.308 Results show that solar reflections are possible at 46 of the 51 road receptors assessed within the 1km study area. The initial bald-earth scenario identified

potential impacts as High at 46 receptors and None at the remaining five receptors. Upon reviewing the actual visibility of the receptors, glint and glare impacts remain High at six receptors, and reduce to Low at one receptor and None at all remaining receptors. Once mitigation measures were considered impacts reduce to Low at one receptor and None at all remaining receptors. The effects from the proposed development are therefore not significant.

Rail Receptors

- B.309 There are two parallel and immediately adjacent railway lines within the 1km study area that pass from east to west between the north array and the central array. The two lines have been assessed as a single receptor.
- B.310 Solar reflections are possible at 15 of the 17 rail receptors assessed within the 1km study area. The initial bald-earth scenario identified potential impacts as High at 15 receptors and None at the remaining two receptors. Upon reviewing the actual visibility of the receptors, glint and glare impacts reduce to Low at eight receptors and None at all remaining receptors. The

effects from the proposed development are therefore not significant.

Aviation Receptors

- B.311 Fifteen aerodromes are located within the 30km study area. However, only Pent Farm required a detailed assessment, due to the proposed solar farm falling within the airfield's safeguarding buffer zone.
- B.312 Results show that green glare impacts are predicted on the approach path for Runway 23 at Pent Farm. According to FAA guidance, green glare impacts are acceptable on runway approach paths. The effects from the proposed development are therefore not significant.

Mitigation

- B.313 Mitigation is required to be put in place when there are potentially significant effects from High and Medium impact views into the proposed development.
- B.314 Mitigation is required to ensure the High impact views into the proposed development from road receptors 5 and 43-47 are screened. This includes native hedgerows/woodland to be planted/infilled along a central section of the western boundary in the

north array and native hedgerows to be planted/infilled along the eastern and western edges of the south array and the east array respectively, and maintained to a height of at least 3m.

Cumulative Effects

- B.315 It is anticipated that there will not be any cumulative effects on ground-based receptors as a result of the construction of the Proposed Development.
- B.316 Impacts are currently Low upon Runway 23 at Pent Farm. These impacts will remain Low when taking into account the existing solar farm development as the glint and glare impacts only occur from the north array, and not the arrays that are adjacent to the existing solar farm. Therefore, it is anticipated that there will not be any cumulative effects on aviation receptors as a result of the construction of the proposed development.

Residual Impacts

B.317 The effects of glint and glare and their impact on local receptors has been analysed in detail and the impact on all receptors is predicted to be Low impacts upon aviation, residential and rail receptors. Impacts upon road receptors are None once mitigation has been considered. Residual effects on road receptors is None, whilst residual effects are Minor for aviation, residential and rail receptors. Therefore, the effects are not significant

REFERENCES

Ashford Borough Council, (2009), Jacobs Rural Fringes Landscape Character Assessment, Ashford Borough Council, UK.

Ashford Borough Council, 2015, South Norfolk Local Plan: Development Management Policies Document, Ashford Borough Council, UK.

Ashford Borough Council, 2019, Ashford Local Plan 2030, Ashford Borough Council, UK.

Ashford Borough Council, 2020, Environmental Strategy, Ashford Borough Council, UK.

Ashford Borough Council, 2021, Ashford to Zero Plan - Our Route to Net Zero Carbon Emissions (Consultation Draft), Ashford Borough Council, UK.

Chartered Institute for Archaeologists (CIfA), (2017), Standard and Guidance for Archaeological Excavation, UK.

British Standards, 2009, BS 5228:2009 + A1:2014 - Code of Practice for Noise and Vibration Control on Construction and Open Sites, BSI, UK.

British Standards, 2014, BS 4142:2014 - Method for Rating and Assessing Industrial and Commercial Sound, BSI, UK.

Building Research Establishment (BRE), 2014a, Planning Guidance for the Development of Large-scale Ground Mounted Solar PV Systems, BRE National Solar Centre, UK.

Building Research Establishment (BRE), 2014b, Agricultural Good Practice Guidance for Solar Farms, BRE National Solar Centre, UK.

Building Research Establishment (BRE), 2014c, BRE National Solar Centre Biodiversity Guidance for Solar Developments, BRE National Solar Centre, UK.

Chartered Institute for Archaeologists, 2017, Standard and Guidance for Historic Environment Desk Based Assessments, CIA, Reading.

Chartered Institute of Ecology and Environmental Management (CIEEM), 2018, Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, CIEEM, UK.

Committee on Climate Change (CCC), 2020, Policies for the Sixth Carbon Budget and Net Zero, HMSO, UK

Department for Business, Energy and Industrial Strategy (DBEIS), 2021a, Greenhouse Gas Reporting: Conversion Factors 2021, HMSO, UK.

Department for Business, Energy and Industrial Strategy (DBEIS), 2021b, Draft National Policy Statement for Renewable Energy Infrastructure (EN-3), HMSO, UK.

Department for Business, Energy and Industrial Strategy (DBEIS), 2021c, BEIS Public Attitudes Tracker, March 2021 (Wave 37), HMSO, UK.

Department of Business, Energy and Industrial Strategy (BEIS), 2021d, 2005 to 2019 UK Local and Regional CO₂ Emissions, DBEIS, UK.

Department for Energy and Climate Change (DECC), 2011a, Overarching National Policy Statement for Energy (EN1), DECC, UK.

Department for Energy and Climate Change (DECC), 2011b, National Policy Statement for Renewable Energy Infrastructure (EN3), DECC, UK.

Department for Energy and Climate Change (DECC), 2021, Draft National Policy Statement for Renewable Energy Infrastructure (EN-3), DECC, UK.

Department for Environment, Food and Rural Affairs (DEFRA), 2010, Noise Policy Statement for England, HMSO, UK.

Department for Environment, Food and Rural Affairs (DEFRA), 2021a, Multi-Agency Geographic Information for the Countryside (MAGIC) - Interactive Mapping At Your Fingertips (Online).

Department for Environment, Food and Rural Affairs (DEFRA), 2021b, Defra Survey Data Download, available from: <https://environment.data.gov.uk/DefraDataDownload/?Mode=survey>.

Environment Agency, 2022, Flood Map for Planning, available from: <https://flood-map-for-planning.service.gov.uk/>.

Hawkins, 2020, <https://showyourstripes.info>, University of Reading, UK.

Highways England, Transport Scotland, Welsh Government and Department for Infrastructure Northern Ireland, 2020, Design Manual for Roads and Bridges, LA113: Road Drainage and the Water Environment, Highways England, UK.

HM Government, 2008, The Climate Change Act, 2008, HMSO, UK.

HM Government, 2017, Town and Country Planning (Environmental Impact Assessment) Regulations: Statutory Instrument 2017 no. 571, HMSO, UK.

HM Government, 2019, Amendment to the Climate Change Act, 2019, HMSO, UK.

Institute of Environmental Management and Assessment, 1993, Guidelines for Environmental Assessment of Road Traffic, IEMA, UK.

IPCC, 2018, Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.

IPCC, 2021, Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

International Organization for Standardization (ISO), 1996, ISO 9613-2, Acoustics - Attenuation of Sound During Propagation Outdoors, Part 2: General Method of Calculation, ISO, UK.

Kent County Council, 2004, The Landscape Assessment of Kent, Kent County Council, UK.

Kent County Council, 2016, Kent Environment Strategy: A Strategy for Environment, Health and Economy, Kent County Council, UK.

Kent County Council, 2017, Kent Environment Strategy: A Strategy for Environment, Health and Economy - Implementation Plan, Kent County Council, UK.

Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA), 2013, Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, LI/IEMA, UK.

Landscape Institute (LI), 2019, Visual Representation of Development Proposals (LI Advice Note 06/19), LI, UK.

Ministry of Housing, Communities and Local Government (MHCLG), 2021a, National Planning Policy Framework, HMSO, UK.

Ministry for Housing, Communities and Local Government (MHCLG), 2021b, National Planning Practice Guidance (Online), available from: <https://www.gov.uk/government/collections/planning-practice-guidance#history>.

Natural England, 2011, Technical Information Note 101: Solar Parks: Maximising Environmental Benefits, Natural England, UK.

Natural England, 2013a, National Character Area Profile 119 – North Downs, Natural England, UK.

Natural England, 2013b, National Character Area Profile 120 – Wealden Greensand, Natural England, UK.

Natural England, 2013c, National Character Area Profile 121 – Low Weald, Natural England, UK.

Natural England, 2013d, National Character Area Profile 123 – Romney Marshes, Natural England, UK.

Natural England, 2014, An Approach to Landscape Character Assessment, Natural England, UK.

Tesco, 2021, Carbon Footprint, retrieved from: <https://www.tescopl.com/sustainability/planet/climate-change/carbon-footprint/> [Accessed 13/02/22].

Thunberg Greta, 2019, Speech to UN Climate Conference, New York, dated 24 September 2019, retrieved from: <https://www.bbc.co.uk/newsround/49801041>.

United Nations, 1998, Kyoto Protocol to the United Nations Framework Convention on Climate Change.

World Health Organisation (WHO), 1999, Guidelines for Community Noise, WHO.

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