



dynamic development solutions™

For and on behalf of
Endurance Energy Wickham Hall Ltd

DESIGN AND ACCESS STATEMENT

Wickham Hall Estate, Bishop Stortford, CM23 1JG

**Prepared by
DLP Planning Ltd
London**

May 2024



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(application reference UTT/21/1833/FUL, appeal reference 3319421)**

1.0 INTRODUCTION

1.1 This Design & Access Statement has been prepared by DLP Planning Ltd (“DLP”) on behalf of Endurance Energy Wickham Hall Ltd (the “Applicant”), to accompany a full planning application for the development of a solar-photovoltaic farm on land comprising part of the Wickham Hall Estate, Wickham Hall, Bishops Stortford, CM23 1JG (the “Site”).

1.2 This document should be read in conjunction with the Planning Statement and other documents accompanying this application.

1.3 The proposed development is described as follows:

“Erection of a Solar Photovoltaic Farm with supporting infrastructure and battery storage, inverters and transformers, fencing landscaping works and connecting cable.”

1.4 The Site falls within the jurisdiction of Uttlesford District Council (“UDC”) but the application is submitted under S62A of the Town and Country Planning Act for determination by a Planning Inspector acting on behalf of the Secretary of State for Levelling Up, Housing and Communities.

1.5 The proposal subject of this Design and Access Statement follows the refusal of planning permission in April 2022 (application reference UTT/21/3108/FUL). That application was submitted in tandem with a separate application on adjacent land in East Hertfordshire (East Herts reference 21/2601/FUL) which has now been granted permission.

1.6 Since the refusal of the application made to Uttlesford District Council, the Applicant has revised the scheme. The new scheme has had regard to the permission in East Hertfordshire and builds on the supported merits of the former Uttlesford proposal whilst responding to the reasons for refusal. Specifically, the revised scheme includes a reduction in the scale and density of the proposed development, the provision of enhanced woodland planting to the south of the Site and significantly more screening of rights of way and other biodiversity enhancements. The Applicant also provides additional supporting technical information with the application (including information on Skylark mitigation and the results of additional archaeological investigations) to respond to the consultation comments received on the previous application.

1.7 The proposed development has an operational area of 25.28ha (62.8 acres) and will comprise the provision of 862 full and 38 half arrays. . This capacity is sufficient to cover the

equivalent electricity consumption of approximately 7400 average homes and will offset approximately 4,150 tonnes of carbon dioxide emissions each year – see Planning Statement para 15.20.

- 1.8 The purpose of this document is to demonstrate that the design and access of the proposed development have been fully considered. It provides details of the Site and its surrounding context, details of the design, layout and access proposals and identifies potential impacts and, where arising, appropriate mitigation strategies.

2.0 SITE LOCATION, CONTEXT AND PROPOSALS

2.1 The Site comprises a gross area amounting to 33.59 hectares, identified by the red line location plan, Plan D01. This includes the necessary land for the construction access, cable route connections, landscaping and planting areas. The net area of the operational development is 25.28 hectares.

Location and Context

2.2 The Site is situated to the north-west of Bishop's Stortford and comprises a single arable field. Its topography is generally level with a slight slope that falls away from the centre of the Site to the north east and north west corners.

2.3 The wider landscape is characterised by two areas of woodland to the south west and to the north east respectively, comprising:

- Bloodhounds' Wood & High Wood
- Bailey Hills Wood,

2.4 These are Ancient Woodlands which are of nature conservation value, and which provide significant landscape screening.

2.5 To the west of the Site land falls away gently to the newly constructed A120 Little Hadham Bypass but the more open character of the landscape is dominated by a line of 400kV powerlines and their attendant pylons.

2.6 To the south east of the wider area are the buildings comprising Wickham Hall including the Farmhouse and barns (which are Grade II listed) and a number of other unlisted buildings which have various commercial and retail as well as agricultural uses and which also include a café and carpark.

2.7 A large agricultural building is located to the immediate south west of the Site but excluded from it. Access to this building is along a track forming the southern boundary of the application area, dividing it from further arable fields to the south and from Bloodhounds' Wood. This track is one of a number of established bridleways and footpaths (PRoW) in the immediate area which run along or close to the boundaries of the Site.

2.8 As shown on the plan attached at **Appendix 1**, bridleway Farnham 020 runs from Wickham Hall westwards to Bloodhounds' Wood and then north (to a point where it crosses the District

boundary (and continues as far as the Upwick Road). This PRow forms the southern and western boundaries of the Site. Another route passes around Wickham Hall and then north west along the boundary of Bailey Hills Wood (Farnham 014) – forming a part of the north-eastern boundary. The northern boundary is demarked by a permissive footpath to be created as a result of a Unilateral Obligation attached to permission 3/21/2601/FUL for a solar farm to the west of the Site, in East Hertfordshire.

3.0 BACKGROUND

Relevant Planning History

- 3.1 The current planning application follows the refusal by Uttlesford District Council (UDC) of a similar proposal at the application site in April 2022 (reference UTT/21/3108/FUL).
- 3.2 Two separate planning applications were submitted on 14 October 2021 for the development of two separate solar farms on the Wickham Hall Estate. The two solar farm applications covered two physically separate sites within the Wickham Hall Estate – one located within the administrative boundary of UDC and one located within the administrative boundary of East Herts District Council (EHDC).
- 3.3 The planning application for the solar farm located within the administrative boundary of UDC was validated under application reference UTT/21/3108/FUL on 30 November 2021.
- 3.4 The decision notice for application reference UTT/21/3108/FUL, dated 19 April 2022, included 5 reasons for refusal. As set out in more detail below, the current planning application seeks to respond to and overcome the previous reasons for refusal.
- 3.5 The planning application for the solar farm located within the administrative boundary of EHDC was validated under application reference 3/21/2601/FUL on 30 November 2021.
- 3.6 Following negotiations with EHDC and consequential amendments to the scheme (including a reduction in the site area), the application was approved by the EHDC Development Management Committee on 11 January 2023 subject to a Unilateral Undertaking to deal with the provision of permissive footpaths (including the provision of permissive footpaths within UDC). The planning permission was issued on 19 December 2023.
- 3.7 Whilst the permission issued by EHDC (reference 3/21/2601/FUL) refers to provision of up to 49.9MW of solar generation, the amended scheme as approved reduced the maximum output to 35MW. The approved scheme has provision for construction access running south eastwards largely along a network of farm tracks to connect with Old Hadham Road and thence to the A120.

Responding to the previous reasons for refusal

- 3.8 The current application has been directly informed by and seeks to respond to the 5 reasons for refusal of the previous application as follows.

Reason for Refusal (RfR) 1

The site is identified within the area in Uttlesford's adopted local plan as Metropolitan Green Belt. The Framework defines inappropriate development as being harmful to the Green Belt and further defines exceptions which would not be inappropriate. Consequently, in not complying with the list of exceptions, the proposals would amount to inappropriate development in the Green Belt in which paragraph 147 of the Framework states is, by definition harmful to the Green Belt and should not be approved except in very special circumstances.

By reason of the inappropriate size and siting, the proposals by way of the long rows of panels, ancillary buildings and infrastructure would comprise a rather utilitarian form of development not typical of its agricultural context. It would contrast awkwardly with the unspoilt open qualities of the site and would introduce a discordant element of significant scale that would encroach into the local landscape contrary to one of five purposes set out in paragraph 138 of the Framework. As such, the proposal would have an adverse effect of moderate significance on the local landscape and a significant adverse effect on the visual amenity of the area.

It is considered that the 'very special circumstance' in this case either individually or collectively do not clearly outweigh the harm that has been identified, and the very special circumstances necessary to justify the development do not exist. The proposals are thereby contrary to policy S6 of the Adopted Local Plan and the National Planning Policy Framework.

- 3.9 It is accepted that elements of the development proposal comprise inappropriate development in the Green Belt and therefore it is necessary to consider the impact of the scheme on the openness of the Green Belt and whether very special circumstances can be demonstrated for the project to proceed.

Impact on the Green Belt

- 3.10 The Officer's Report stated that the proposal would have a significant adverse effect on the openness of the Green Belt and result in significant encroachment into the countryside.
- 3.11 The Applicant considers that the degree of harm to the openness of the Green Belt and encroachment into the countryside is limited by the siting of the development site within the wider landscape, the nature of the proposed development, and the mitigation planting proposed.

- 3.12 By the nature of its siting, long and mid-distance views of the Site within the landscape are limited.
- 3.13 Whilst the overall ground cover associated with the solar farm is substantial, the proposed solar arrays and small number of associated structures would be relatively modest in mass and footprint (the proposed panels will not exceed 3m in height) and therefore are easily screened in short distance views by hedgerows / planting. This reduces the overall scale and impact of the proposals, certainly compared to most forms of development (e.g. commercial or residential). Furthermore, the scheme would be in place for a temporary period of 43 years, after which the land would be returned to its former condition.
- 3.14 Notably, the character of the Green Belt in this location is substantially defined by the dominating overhead transmission lines and their pylons which represent an existing intrusion into the landscape. The established character is one of enclosure (comparative to other areas of the Green Belt) created by the existing woodland (Bloodhounds Wood located to the south west and Bailey Hills Wood located to the north east) which form its contextual setting and determine the extent to which openness is self-contained. In addition, the A120 Little Hadham Bypass, recently completed, further influences the perception of the landscape character. Implementation of the consented solar farm to the west of the application site will also alter the visual perception of the area.
- 3.15 A number of changes have been made to the current proposal, compared to the previously refused scheme, which seek to further limit the impact of the proposals in terms of landscape harm and impact on the openness of the Green Belt:
- An area of proposed solar panels, measuring circa 5.5ha, located to the west of the current application boundary, has been removed from the proposals;
 - The proposed panels are set further back from the Site boundaries to facilitate the retention of existing vegetation, the provision of additional planting/landscaping and to provide a greater offset from the existing/proposed planting and the PRoW/permissive footpaths which run adjacent to the Site;
 - A 30m wide woodland belt is proposed along the south eastern edge of the application site;
 - An informal wildlife area measuring 2.32ha is proposed adjacent to the eastern site boundary – this includes over 1 ha of scrub planting, a pond and further broadleaf woodland planting;
 - A new hedgerow is proposed around the entire perimeter of the proposed solar farm, (2.026 km) located in front of the proposed security fencing so as to provide visual

screening of the fencing and proposed development, when viewed from the PRow/permissive footpaths.

- 3.16 By extending and joining up the existing screening provided by Bloodhounds Wood (located to the south west) and Bailey Hills Wood (located to the north east), the proposed new woodland belt and wildlife area will provide a continuous belt of significant and contextually sympathetic landscaping around the entire western and southern boundaries of the application site, which provides legacy landscape and ecological benefits, in addition to providing additional screening of the development proposal in short distance views.
- 3.17 Having regard to the context of the Site, the nature of the proposals and the mitigation proposed, the Applicant considers that the level of harm to the openness of the Green Belt and encroachment into the countryside is limited.

Very Special Circumstances

- A full consideration of the very special circumstances (VSC) which pertain can be found at s15 of the Planning Statement. In relation to considerations of design and layout which may affect the landscape setting of the proposals and consequently the impact on openness. The reduction in scale, together with the environmental and landscape benefits of the scheme as described above need to be weighed in the balance. These include both the locational considerations – the utilisation of capacity at the Bishop’s Stortford Substation and the desirability of developing land within near proximity to it – and also the delivery of significant legacy landscape, ecological and biodiversity enhancements as a result of proposed planting and resulting habitat creation. These will endure after the operational life of the development has concluded.;

Reason for Refusal (RfR) 2

The Historic Environment Record and the desk-based assessment submitted with the application shows that the proposed development lies within an area of known archaeological deposits. These particularly highlighted the potential for Iron Age and Roman occupation, identified in advance of the A120 Hadham Bypass following the completion of geophysical survey as part of the pre application evaluation undertaken on the road line.

Following the guidance within the NPPF at present the application has not provided appropriate consideration of the impact of the development such as a geophysical assessment and photographic evidence of the area to assess the historic environment. The proposals are thereby contrary to policy ENV4 of the adopted local plan and the National Planning Policy Framework.

- 3.18 The application is accompanied by a desk based Heritage Assessment, including a geophysical survey and an Archaeological Cropmark Statement, the scope of which was agreed with Essex Place Services.
- 3.19 The geophysical survey has identified a number of archaeological remains. This includes a possible prehistoric/Roman enclosure and two possible prehistoric barrows which hold evidential value. Additional identified remains within the Site include remnants of infilled furrows and medieval or post-medieval field boundaries. These features are common within the archaeological record and are of insufficient evidential or historic value to be deemed as 'non-designated heritage assets.
- 3.20 Pre-application discussions have taken place between the Applicant's Archaeological Advisors and Essex Place Services. It has been agreed that the information submitted in support of the application is sufficient and that further targeted trench evaluation could be agreed and secured via a pre-commencement condition.

Reason for Refusal (RfR) 3

Insufficient information has been submitted in support of the application to demonstrate that there would not be an unacceptable impact to protected and priority species and their habitats particular in relation to Skylarks. This is needed to enable the LPA to demonstrate its compliance with its statutory duties including its biodiversity duty under s40 NERC Act 2006 as updated by the Environment Act 2021 and to be able to properly assess any potential impacts upon protected species. Without this information, the LPA are unable to properly assessed the proposals and impacts on legally protected and priority species. The proposals would thereby be contrary to policy GEN7 of the adopted Local Plan and the NPPF.

- 3.21 Skylarks are ground nesting birds which breed in arable land. Skylark are red-listed as a Species of Conservation Concern due to recent breeding and wintering population decline. A total of 13 breeding pairs of Skylark were observed within the Site by the bird surveys undertaken.
- 3.22 A Skylark Mitigation Strategy is submitted in support of the planning application. The objective of the mitigation scheme is to create suitable foraging habitat for Skylark in the locality of the site, compensating for the potential loss of Skylark territories within the development area.
- 3.23 The Applicant proposes to provide 26 new Skylark plots on land within the Wickham Hall Estate (, representing compensation at a 2:1 ratio. The delivery of the offsite Skylark

Mitigation Strategy can be secured by a pre-commencement condition requiring the submission and approval of a detailed scheme for the delivery of the Skylark Mitigation Strategy (as has been used in recent planning appeal decisions, including a Secretary of State appeal decision issued 11 March 2024, appeal reference 3323321).

- 3.24 In addition to the provision of Skylark breeding plots, foraging opportunities will be enhanced for Skylark and other declining farmland birds through creation of new wildflower grassland and hedgerow planting. Solar Energy UK has recently published the results of annual biodiversity monitoring of existing UK solar farms¹. During structured bird surveys by qualified ecologists, skylarks were observed in 72% of the solar farms studied.

Reason for Refusal (RfR) 4

Insufficient information has been provided in support of the proposals to demonstrate that the impact on the public rights of way network caused by this proposal will not have unacceptable consequences in terms of highway safety, efficiency and accessibility and that the proposed works are indeed deliverable. The proposal is therefore contrary to policy GEN1 of the Adopted Local Plan and the National Planning Policy Framework.

- 3.25 The proposed construction and operational access to the Site is described in the accompanying Transport Statement (“TS”). Construction access coincides with approximately 325m of ECC bridleway Farnham 020 running west before turning south to parallel a permissive footpath as far as the administrative boundary. Operational access runs eastwards along Farnham 020 for a distance of about 550m before running south along Jazz Street which is ECC footpath Farnham 031. Farnham 031 is a metalled private drive serving Wickham Hall and will also provide access to an approved winery development with associated carparking and landscaping (UTT/22/2362/FUL) – for which there was no objection from Essex Highways or the Rights of Way Officer. Farnham 020 is an unsealed farm track. Both are in regular use by farm vehicles.
- 3.26 It is not proposed to close or divert either PRoW as a result of the development proposals.
- 3.27 Pre-application discussions have taken place between the Applicant and Essex Highways – see also Section 4 of the Planning Statement.
- 3.28 As set out in detail in the submitted TS, the Applicant proposes a scheme to ensure that construction access is segregated, fenced and with banksmen to manage crossing points so

¹ Solar-Habitat-2024-Ecological-Trends-on-Solar-Farms-in-The-UK.pdf (solarenergyuk.org)

as to avoid conflict with the use of the right of way. The operation of the solar farm is likely to result in a reduction of vehicular movements along the prescribed route as compared with current agricultural use of the land. No specific measures are therefore considered to be needed to ensure the safety of the public using the rights of way.

Construction access

- 3.29 It is agreed that construction vehicles will access the Site from the A120 utilising the route of the temporary construction track approved by EHDC in association with planning permission reference 3/21/2601/FUL as far as the administrative boundary of UDC. A full planning application has been submitted to enable this provision to allow for the construction of this application – see Planning Statement Appendix 2.
- 3.30 Once construction vehicles enter UDC (i.e. the application site) they will follow parallel to a farm track which is a permissive footpath for a distance of approximately 75m before intersecting with the route of bridleway Farnham 020. The land required to extend the width of the existing farm tracks and thus deliver the temporary access route within UDC is included within the application red line boundary.
- 3.31 It is proposed that the temporary construction access track will be segregated from the rights of way utilising temporary fencing, provision for which can be secured via condition to approve a Construction Management Plan. This will allow construction vehicles to use the temporary track and pedestrians to continue using the existing farm tracks (separated from the temporary construction track by fencing).
- 3.32 This mitigation addresses the potential safety concern of a construction vehicle straying into the PRow, or users of the PRow travelling along the construction route, as the security fencing would ensure the two stay separate. This arrangement has been agreed as acceptable in relation to the solar farm approved within EHDC (reference 3/21/2601/FUL).

Operational access

- 3.33 Once operational the solar farm will generate approximately 1-2 vehicular movements per month for maintenance. Vehicles will comprise vans or other light commercial vehicles. As existing, the farm access tracks comprising Farnham 020 and 031 are already used by agricultural vehicles. As a result of the proposed solar farm, there will be a reduction in agricultural vehicles using the access track and the operational traffic generated by the

proposed solar farm will be minimal. As a result, there will be no residual cumulative impacts on highway safety as a result of the proposals.

Reason for Refusal (RfR) 5

The applicant stipulates that following the operation stage, it is proposed that the solar farm is decommissioned, with the solar panels and other infrastructure to be removed and the site to be retained back to its original condition. This requirement would need to be secured through a S106 Agreement. At the time of issuing this decision a S106 Agreement had not been prepared or completed. As such, the proposals is contrary to policies GEN6 of the Adopted Local Plan and the National Planning Policy Framework.

- 3.34 The Applicant is of the opinion that the decommissioning of the proposed solar farm can be secured by condition and does not require the completion of a S106 Obligation.
- 3.35 The Applicant notes that this is a matter which was considered by the Planning Inspector of a recent planning appeal for a solar farm in Uttlesford District Council – Land west of Thaxted, Cutlers Green Lane, Thaxted (application reference UTT/21/1833/FUL, appeal reference 3319421). The appeal decision, dated 18 December 2023, is attached at **Appendix 2**.
- 3.36 Paragraph 5 of the UTT/21/1833/FUL appeal decision states:

“Reason for refusal 4 on the Council’s decision notice relates to the lack of a S106 Agreement for the decommissioning of the solar farm and reinstatement of the land back to its original condition. The Council have subsequently agreed that this matter can be overcome by the imposition of a suitably worded condition. They did not therefore defend this reason for refusal. I see no reason to come to a different conclusion and the suggested condition is addressed later in this decision”

- 3.37 The Inspector imposed the following condition to secure the decommissioning of the approved solar farm:

Prior to the development permanently ceasing the commercial export of electricity to the electricity grid network or this planning permission ceasing, whichever is sooner, a Decommissioning Method Statement (DMS) must be submitted to the local planning authority for approval in writing. The DMS must include the following details:

- proposals for the removal of the solar arrays, inverters, batteries, DNO substation, access tracks, CCTV cameras, fencing, and other associated infrastructure from the site and a programme for the carrying out and completion of those works;*
- proposals for the restoration of the site and a programme for carrying out and completing those works;*
- a Decommissioning Environmental Management Plan; and*

- *a Decommissioning Transport Management Plan. The development must be decommissioned in accordance with the approved DMS within 12 months of the development permanently ceasing the commercial export of electricity to the electricity grid network or the planning permission ceasing, whichever is sooner.*

3.38 The Applicant invites a similarly worded planning condition in this instance.

4.0 SOLAR AND ENERGY STORAGE

- 4.1 Solar photovoltaic (PV) panels convert the sun's energy into electricity. This electricity is generated as a *direct current* (DC) and is processed by inverters which converts the power into *alternating current* (AC) which is suitable for distribution and transmission across the country by means of the national grid.
- 4.2 The energy storage element of this proposed development allows for the export of a more consistent level of electricity across the year as it can be stored when the demand on the grid drops and be used to increase output when peaks in demand occur at times of lower irradiance. This is known as "load balancing" and serves to improve the resilience of the electricity infrastructure network of the UK.
- 4.3 Both the inverters and battery storage facilities generate heat as by-product of peak operating conditions and so require fan or liquid cooling. Cooling systems are self-contained and whilst they generate low levels of noise this is not discernible from beyond the boundaries of the facility and generates minimal maintenance requirements. The monitoring and management of the scheme is done remotely. Although the application allows for a small control room this is not expected to be manned on a regular basis.
- 4.4 The level of deployment seen by the solar industry has led to a sharp decrease in costs, making it one of the cheapest methods of energy generation and one that no longer requires government subsidies. It is efficient, effective and once installed, it has minimal maintenance needs, generating very little ongoing traffic.

5.0 DESIGN

Quantum

5.1 The layout of the proposed development is shown on drawing ref. PL001. The proposed layout shows that the development overall will contain:

- PV panels erected in 'tables'. The scheme comprises 862 full tables and 38 half table arrays (holding 24 and 12 panels respectively), mounted south facing in rows spaces approximately 4.4m apart; panels to be angled at approximately 25° with a minimum height from the ground of 1m and a maximum height of 3m.
- 7 No. AC Boxes/Inverters, Transformers (MV Powerstations)
- Operational Compound comprising
 - 1 No DNO Substation;
 - 1 No Customer Sub-station;
 - 1 No Storage Container;
 - 1 No Control and Welfare Unit
 - 10 No Battery storage units;
 - 3No DC Combiner boxes
 - 3No PCS units
 - 2No Transformer/Switch Rooms
- Enclosure of the solar arrays by deer proof fencing
- Secure compound fencing to the electrical infrastructure comprising 2.5m weldmesh fencing.
- CCTV cameras located to provide surveillance along the boundaries of the Site, mounted on poles not to exceed 3m height.
- Legacy planting comprising:
 - Protection and enhancement of the existing hedgerows and mature trees;
 - Introduction of 30m wide woodland belt comprising 1.717 ha;
 - New boundary native hedgerow – 2.026 km;
 - A new multi-functional wildlife area comprising a total of 2.32 ha;
 - Enhanced footpath corridors with new hedgerows and wildflower planting;
 - Bolstering of boundary hedgerows to be managed to a height of 3m;
 - Foraging areas for skylarks; and
 - Habitat boxes and ecological features for a range of fauna species.
- Biodiversity Net Gain (BNG) comprising:
 - planting 219.46%
 - hedgerow 96.57%

Solar Panels

- 5.2 PV panels are the predominant feature of the proposals and will cover most of the net operational area of 25.28ha .
- 5.3 The development as proposed comprises 862 full tables and 38 half tables that amount to 21,164 panels in total. The PV panels will be mounted into the ground and typically spaced 4.4m apart (given the level topography) which avoids inter panel shading. The proposed panels have a fixed orientation, are tilted at about 25° and are orientated in a southerly direction.
- 5.4 The general configuration of the PV panels and their mounting frames comprising the arrays is as set out on Dwg PL.001.
- 5.5 The panels will be mounted approximately 800mm from the ground at their lowest point with a maximum height not to exceed 3m above the immediate ground level.
- 5.6 PV panels work by absorbing light. Whilst comprising silicon sheets with a glass or plastic cover, the materials are treated with anti-reflective coatings to avoid efficiency losses and typically absorb around 93-95% of light hitting them. Regardless of orientation they do not reflect light and will not create any significant glint or glare likely to affect sensitive receptors. This is demonstrated by a Glint and Glare Report submitted with the application.
- 5.7 The frames on which the PV panels are mounted comprise steel frames which are driven into the ground to the depth of about 1 – 1.5 metres at maximum. This may be achieved either percussively or by a screw type method depending on the soil conditions. In this instance where soil conditions are good either methodology may be appropriate. The weight of the arrays is sufficient to provide anchorage without concrete reinforcement.
- 5.8 In the alternative, in any areas where it is found desirable to avoid works below the normal depth of ploughing so as to avoid buried archaeology, a concrete raft foundation is possible. This allows for the arrays to be 'floated' on shallow concrete platforms.
- 5.9 In either construction form, the development is fully reversable either through the removal of the metal framework or by the breaking up and removal of any concrete pads such that the land can be restored to productive agricultural use on cessation of the planning permission.

Fixed Infrastructure

- 5.10 Elements comprising the fixed infrastructure principally comprising inverters, substations and battery storage components, will be constructed on shallow concrete pads or a compacted stone base. No in-depth foundations are required and any cabling is at the surface or buried no deeper than achieved by normal ploughing practice. The exception to this is in respect of the main connection cable from the transformer to the off-site substation which is buried to a depth that will not be disturbed by the continued agricultural cultivation of the land under which it runs.
- 5.11 As such the fixed infrastructure elements of the proposal are also entirely reversible at such time as the planning permission expires or if the need for the energy generated should cease.

MV Powerstations

- 5.12 The MV Powerstations comprise inverters and transformers which convert DC current generated by the PV panels into AC required for use in the National Grid.
- 5.13 The inverters are typically combined with transformers and the appropriate switchgear into a single containerised unit as illustrated at Dwg. PL.005.
- 5.14 The containerised units measure approximately 6m x 2.5m with a height which is not more than 3.5 metres. They are located within the areas of solar arrays and not adjacent to boundaries. To further mitigate their appearance the exterior can be painted an appropriate colour to suit site conditions such as a recessive shade of green, allowing it to blend in with the surrounding countryside.
- 5.15 Inverters and transformers generate heat as a by-product of their operation. They are therefore subject to a cooling system in order to maintain stable operating temperatures. Noise may therefore arise from the operation of cooling fans deployed to ensure that the systems work at optimum temperature. Typically, each of the inverter units will generate a noise level of around 59 dB(A) at 10m during the daytime and 54 dB(A) when running on low duty in the early morning period. This is likely to be above ambient background noise levels however the impact of noise generation is mitigated by the location of the noise sources at points where they will not have any material effect on the wider surroundings – specifically there will be no audible noise at any sensitive receptors such as residential dwellings.

Substations

- 5.16 Distribution Network Operator (DNO) and Customer Substations serve to collect the electricity from all the distributed inverter/transformers across the Site and export it at set current and voltage suitable for receipt at Bishop's Stortford Substation. This facility includes a safety mechanism which allows the installation to be effectively isolated from the electrical grid.
- 5.17 The Substations are similar in appearance to the inverter/transformers as illustrated at Dwg PL.006 comprising a single container of approximately 10m x 2.5m x 3.5m.

Other fixed infrastructure

- 5.18 Other fixed infrastructure will be provided adjacent to the substations comprising small transformer units, and switchgear as denoted on Dwg PL.006 together with a storage contained for maintenance equipment and a control unit with a welfare space/rest room for operatives visiting the site.

Grid connection

- 5.19 Connection from the solar farm to the national grid is at the Bishop's Stortford Substation. This connection will be by way of an underground cable across land forming part of the Estate and then along public highway. The cable route will follow the alignment of the construction access to the Uttlesford boundary where it will intersect with the route of a separate cable that shall be provided to connect the scheme permitted in East Hertfordshire. The two cables shall thence run in parallel across land within the Wickham Hall Estate until they intersect with the A120. Thereafter they will run eastwards along the A120 joining the A1250, and then via Cricketfield Lane and Dane O'Coys Road and thence across private land to the substation (over which UK Power Networks, the DNO, has rights).

Battery/Energy Storage Units

- 5.20 There is little to distinguish the energy storage units from the inverter/transformer units as they will be in very similar containers painted in a manner to limit any visual impact. They are of broadly similar dimensions as illustrated at Dwg PL.011.
- 5.21 The battery storage units will also each produce a noise level for cooling systems, albeit typically unlikely ever to exceed 47 dB(A) at 10m.

Safety

- 5.22 In support of this application, an Outline Battery Fire Safety Management Plan (OBFSMP) has been prepared by Enzygo which addresses safety concerns around the proposed development and provides an overview of the approach that will be taken to battery safety at the site including how the technologies will prevent, suppress, and mitigate potential thermal or fire events.
- 5.23 The fixed infrastructure units are all fully self-contained, permanently monitored (remotely) and each is subject to appropriate fire safety systems which, firstly detect any potential operational abnormalities such as increases in operating temperatures, and secondly, can trigger fire suppression systems if required. The battery units shall have an integrated aerosol fire extinguishing system, consisting of features such as smoke and temperature detection, an automatic aerosol-based fire suppression system; a gas sensor and active ventilation system; a fire resistant enclosure; and a non-water based fire suppression system(s).

CCTV Cameras and Security Fencing

- 5.24 A deer-proof fence is proposed along the entirety of the boundary of the operational area. Given the countryside setting, the fencing will consist of a timber and wire fence and be up to 2.5m in height – Dwg PL.007 refers. Where gate access is necessary these will comprise weldmesh gates again as shown on PL.007.
- 5.25 Weldmesh fencing is proposed where it is necessary to provide secure compounds to prevent access that would conflict with high voltage installations.
- 5.26 A number of a motion sensor based CCTV cameras will be provided, mounted on 3m poles at set intervals extending along the boundaries of the development, edges of the defined compounds and near the permissive and public rights of way. They will record images if an infrared signal is breached. This is to mitigate risk of theft and criminal damage during construction and operation of the Site. Detail of the camera installation and of the satellite dish providing connectivity is provided on Dwg PL.007.

Public Access

- 5.27 The Wickham Hall Estate contains a number of PRoWs and permissive paths – see Appendix 1. The scheme does not require the diversion, stopping up or alteration of any existing PRoW nor impacts upon the new permissive paths secured in connection with the permission for the solar farm granted by application reference 3/21/2601/FUL. The use of rights of way and

creation of circular routes arising from permissive paths around the Wickham Hall Estate are known to be popular with local people who make frequent use of them. The maintenance of the existing routes have been the subject of discussion by the Estate with the local Ramblers' Association, and are believed to have their support.

Landscaping and Biodiversity

5.28 The proposed development has been designed through an iterative process based upon a detailed assessment of the landscape and potential visual impact of the scheme. In the preparation of the refused application this included direct engagement with the Council's landscape advisor. Potential viewpoints were identified for the Site, which is well contained by the landform and which, arising from the strong existing landscape context of mature vegetation, would not be seen in its entirety from any given location.

5.29 The proposal provides the opportunity to create specific landscape enhancements which also have a positive biodiversity impact. This includes significant new areas of tree planting and hedgerows in key locations and the provision of a dedicated wildlife area which will form a legacy enduring after the permitted use ceases. Arising from the LVIA it is considered that the proposals are complementary to the character and qualities of the area, given the temporary and reversible nature of the proposed development. While there would be some change to the appearance of the arable landscape, the solar panels are low lying and set within an undulating landscape where the landform will remain unchanged.

Woodland planting

5.30 Complementary to the landscape strategy are new areas for legacy woodland planting as shown on the landscaping plan.

5.31 The principal area of new woodland planting comprises the creation of a belt to the south of the Site to link Bloodhounds' and Bailey Hills Wood. The total new tree planting areas amount to over 1.7ha and will create habitat connectivity for bats and a variety of other species through a combination of new native hedgerow and woodland planting.

Wildlife area wildflower planting

5.32 Compensation measures are included within the scheme and safeguarding of existing habitats. Habitat creation proposals are intended to create significant areas of wildflower planting which will promote plant and animal communities in the local area and deliver net biodiversity gain compared to the existing intensive arable land use. Species-rich wildflower

grassland will be created, providing pollen-rich margins for bees and butterflies, benefitting wild birds and small mammals.

- 5.33 A dedicated Wildlife Area of over 2.3ha is proposed to the east of the Site. Whilst this will also allow for complementary new planting, it will also include potential for wetland features allowing for a range of invertebrate and bird life.
- 5.34 Habitat conservation and creation throughout the Site will be subject to proposals for long term ecological management.

Interpretation

- 5.35 The proposal allows for the provision of a number of interpretation boards within the Wildlife Area. The purpose of these boards will be as an educational tool to describe (in broad terms but not exclusively) the process of solar energy generation and the essential role that it has in helping the country move towards net zero, the context of the development at Wickham Hall, the value of local ecosystems and habitats and the specific steps that will have been taken to supplement and enhance the natural environment through habitat creation and management. The Applicant and the Wickham Hall Estate hope that such provisions can be made in conjunction with the Local Education Authority, Wildlife Trust and other interested parties including local schools and are working towards achieving this objective.

6.0 TRANSPORT AND ACCESS

6.1 A TS is submitted as part of the application. This contains an outline Construction Traffic Management Plan (“CTMP”).

Construction

6.2 Principal impacts will arise through the construction phase which is temporary and identified as being a total period of approximately 20 weeks. Thereafter the operational phase will generate negligible traffic, limited to occasional maintenance and service visits in respect of the fixed infrastructure.

6.3 It is proposed that construction access is via, and shared with, the temporary construction access approved in respect of the solar farm granted on the adjoining land in East Hertfordshire secured by planning permission and a Unilateral Obligation that has been submitted. This construction access falls wholly within the Wickham Hall Estate and for the most part parallels existing farm tracks. A short section of temporary track will be formed to connect the permanent tracks to a section of the former Old Hadham Road and thence to the A120 at an existing junction approximately 200m west of the A120/A1181/A1250 junction.

6.4 The TS assesses the traffic to be generated during construction to be of the order of a maximum of 28 two-way daily vehicle movements via the internal access track network to the A120/Old Hadham Road junction of which 8 two-way movements would be construction vehicles (HGV) and 20 two-way would be staff (cars, vans). This is not deemed to be material and would not have a negative impact on the operation of the immediate or surrounding road network.

6.5 The outline CTMP identifies the principles that will be expected to form the basis of a traffic management scheme to be approved prior to construction. Once approved the CTMP will determine the exact details, timing and criteria to be followed to ensure that construction is carried out in the most efficient manner, has full regard to highway safety and is respectful of the natural environment.

6.6 In order to avoid conflict between construction traffic and users of the PRowS, where the construction access within the Wickham Hall Estate utilises roads and tracks that are also rights of way, appropriate measures will be taken to ensure that PRowS remain open and useable at all times and that any potential for conflict between users is properly managed. This may be achieved by a variety of measures including the timing of deliveries, the use of

banksman, or by the provision of separate and clearly defined 'haul routes' to ensure the separation of vehicular, pedestrian and equine users.

- 6.7 The proposed development would comply with national planning policy and best practice guidance in relation to construction.

Operation

- 6.8 Regarding operation, the development will not be permanently manned. Visits to and from the site will be limited to service and maintenance – where the upkeep of the land will be carried out by the Wickham Hall Estate in connection with its routine maintenance regime for Estate assets.
- 6.9 The operational phase will therefore generate minimal traffic. Where external traffic is generated, it is expected that this will use the existing access which serves Wickham Hall and its associated commercial premises comprising the Wickham Hall Business Park, This comprises Jazz Street which passes under the A120 and is now connected with Newland Avenue within the built up area of Bishop's Stortford (Stortford Fields).
- 6.10 Overall, it is assessed that the development will lead to a reduction of vehicle movements where no cultivation and cropping of the land will take place thus not attracting deliveries of equipment and materials such as fertilizers and not giving rise to the export of grain for sale. It may lead to a reduction in the potential for conflict between farm traffic and public use of those rights of way which follow the principal farm tracks.



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