1 INTRODUCTION

1.1 INTRODUCTION

1.1.1 JBM Solar Projects 10 Ltd (the "Applicant") is seeking to obtain planning permissionfor Belvoir Solar Farm (the "Proposed Development") on land within the Belvoir Estate, Grantham, NG32 1PE (the "Application Site" or "Site"). The Application Site lies within the administrative area of Melton Borough Council (MBC). The location of the Application Site is shown on **Figure 1.1**.

1.2 EIA REGULATIONS AND PROCEDURES

1.2.1 Due to its scale, nature and location, the Proposed Development is considered to constitute 'Environmental Impact Assessment (EIA) Development' under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as the "EIA Regulations").

1.2.2 The Proposed Development falls within Schedule 2 development, which is development likely to have significant effects on the environment by virtue of factors such as its nature, size or location under the category of "Industrial installations for the production of electricity, steam and hot water" (Schedule 2, 3a) as described in the EIA Regulations.

1.2.3 EIA is the process of collection, publication and consideration of environmental information in the determination of a planning application. Where an application is made for planning permission for EIA development the planning authority is not permitted under the EIA Regulations to grant planning permission unless they have first taken environmental information into consideration. Consequently, information required to assess the likely significant effects of the Proposed Development on the environment during construction and on completion, as required by Regulation 2(1) and Schedule 4 of the EIA Regulations has been compiled and is presented in this document, the Environmental Statement (ES).

1.3 STRUCTURE OF ENVIRONMENTAL STATEMENT

1.3.1 This ES comprises studies on each of the aspects of the environment identified as likely to be significantly affected by the Proposed Development, which are supported with technical appendices where appropriate. This ES is structured as follows:

- Environmental Statement: Comprises the main volume of the ES including Technical Appendices;
- The Non-Technical Summary (NTS) provides a concise summary of the ES identifying the likely significant environmental effects and the measures proposed to mitigate or to avoid adverse effects of the Proposed Development.

1.4 ENVIRONMENTAL STATEMENT AVAILABILITY AND COMMENTS

1.4.1 This ES is available for public viewing during normal office hours at the MBC Planning Department. Comments on the planning application should be forwarded to:

Planning Department
Melton Borough Council
Parkside Station Approach,

Burton Street,
Melton Mowbray,
Leicestershire
LE13 1GH

1.4.2 The ES may be purchased in Volumes, while stocks last, the costs for which are set out below:

- Non-Technical Summary – Free of Charge
- Environmental Statement - £50

1.4.3 Copies of all documents can be obtained on CD for £10. For copies of any of the above please contact Pegasus Group at the following address and quote reference P19-2022:

Pegasus Group
Pegasus House
Querns Business Centre
Whitworth Road
Cirencester
Gloucestershire
GL7 1RT

Tel: 01285 641717
Fax: 01285 642348

1.5 ASSESSMENT METHODOLOGY

1.5.1 This chapter explains the methodology used to prepare each chapter of this ES and describes its structure and content. In particular, it sets out the process of identifying and assessing the likely significant environmental effects of the Proposed Development.

1.5.2 In accordance with the EIA Regulations, this ES comprises the following information:

- A description of the development proposed comprising information about the Site including the nature, size and scale of the development;
- The data necessary to identify and assess the main effects which the development is likely to have on the environment;
- A description of the likely significant effects of the Proposed Development covering, direct effects and any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects, explained by reference to the Proposed Development's possible effect on: human beings, flora, fauna, soil, water, air, climate, cultural and archaeological heritage, landscape and the interaction between any of the foregoing material assets (as appropriate);
- Where significant adverse effects are identified with respect to any of the foregoing, mitigation measures will be proposed in order to avoid, reduce or remedy those effects; and
- A summary in non-technical language of the information specified above.

1.6 SCREENING

1.6.1 A request for a Screening Opinion was submitted to the MBC in January 2021. The Screening Opinion adopted (reference: 21/00080/EIA) by Melton Borough Council on 11th May 2021 confirmed that the Proposed Development was considered against the selection criteria in Schedule 3a 'Industrial installations for the production of electricity' of Schedule 2 of the Town and Country Planning Environmental Impact Regulations 2017 (as amended).

1.6.2 The Screening Opinion concluded that under Regulation 5 of the 2017 Regulations, the proposal constituted EIA development and would need to be accompanied by an Environmental Impact Assessment. Accordingly, the Applicant has prepared an ES to support the planning application. See **Appendix 1.1** for Melton Borough Councils Screening Opinion.

1.7 SCOPING

1.7.1 In order to determine the scope of an EIA, the EIA Regulations make provision for, but do not statutorily require, an applicant to request that the local planning authority (LPA) provide a written opinion as to the information to be provided within the ES.

1.7.2 No formal scoping exercise was carried out for this ES, with no Scoping Opinion submitted to MBC. It has been determined through professional judgement to address significant environmental impact matters when considering the scheme with the known baseline environment and Schedule 4 of the EIA Regulations 2017 (as amended). The EIA focuses on the potential likely significant effects of the Proposed Development during construction and operational phases only.

1.7.3 Accordingly, the environmental themes scoped into or out of the EIA are given in **Table 1.1.** Where a topic has been scoped out of the ES the reasoning is provided.

Table 1.1: Environmental Themes Scoped In / Out

EIA Topic	Scoped In / Out	How/Where addressed/Reason for ScopingOut
Population	Scoped out	During construction, it is considered unlikely that the proposals will result in a significant change in population as workers are unlikely to relocate to the area on a permanent basis. Construction will have a temporary effect on employment provision through the creation of construction jobs. A minor beneficial effect is therefore anticipated. Once operational, the proposed development does not provide any permanent residential accommodation and accordingly will not have a significant effect on population. The only vehicle movements will be from the occasional maintenance vehicle that would have negligible influence on the surrounding population. Matters relating to visual amenity will be assessed in the Landscape and Visual Chapter of the ES. Matters relating to transport and access will be

		assessed in the Construction Traffic Management Plan which will be accompanied by supporting figures (including visibility splays and swept path analysis for the largest HGV). Details relating to noise will be assessed in the Noise Chapter of the ES.
Human Health	Scoped out	During the construction phase there would be some potential for minor pollution or nuisance consistent with construction works, i.e. lighting of external works, dust/noise from vehicles/construction processes, surface water run-off from bare earth/stockpiles, plant noise etc. Construction activities would be appropriately controlled to an acceptable level through the adoption of construction best practice and appropriate safety measures. During operation there would be no unusual risk to human health. The development relies on well-established, safe modern technology and correct Health and Safety signage will be displayed on the Site to inform of the potential risk from working near electrical equipment and to discourage trespass. A noise assessment will be provided as part of the Environmental Statement.
Biodiversity	Scoped In	Assessed in the Ecology Chapter (Chapter 5).
Land	Scoped In	Assessed in the Agricultural Resources Chapter (Chapter 8)
Soil	Scoped Out	Due to the nature of solar farms, it is unlikely that the construction of the proposed development would lead to the loss of soils as appropriate construction techniques will be implemented to reduce below ground works and as such significant effects are not considered likely. The soil has no known history to indicate there would be any form of contaminations present, yet if found, any contamination will be controlled during construction through the imposition of appropriate planning conditions to ensure any contamination risks are addressed. No significant effects are therefore anticipated.
Water	Scoped In	Assessed in the Flood Risk and Drainage Chapter (Chapter 4).
Air	Scoped Out	Whilst there may be dust generated during construction, this can be reduced using construction management measures. Therefore, it is considered unlikely that the proposals will have a significant effect on air quality during construction. The only vehicle movements in operation would be from the occasional maintenance vehicle that would

		not give rise to a significant effect on air quality. Due to the nature of the development, once operational there would be no emissions generated by the development. No significant effects are therefore anticipated.
Climate	Scoped out	It is acknowledged that construction of the proposed development will result in the gaseous emissions associated with construction vehicles. Although, considering the temporary nature of construction it is considered that these emissions are unlikely to be complex or significant. Due to the nature of the development, once operational the facility will be generating energy from renewable sources. A positive effect is therefore, anticipated through reducing the requirement for fossil fuel-based energy production facilities. Climatic factors will be considered accordingly within the Flood Risk and Drainage Chapter and standalone FRA submitted alongside the planning application and as such the proposed development is unlikely to have a significant effect.
Material Assets	Scoped out	Construction would require the use of natural resources as is standard with construction works, i.e., power/water/construction materials. This is not considered to be an unusual or complex operation and accordingly, no significant effects are anticipated. Due to the nature of the development, no natural resources would be required for the operation of the facility once constructed. It is not considered there are any further 'material assets' to those already addressed within other EIA topics.
Cultural Heritage (including Architectural and Archaeological aspects)	Scoped In	Assessed in the Cultural Heritage Chapter (Chapter 3).
Landscape	Scoped In	Assessed in the Landscape and Visual Chapter (Chapter 2).
Risks of Major Accidents and Disasters	Scoped out	The nature and location of the development is not considered to be vulnerable to nor would it give rise to significant impacts in relation to the Risk of Accidents and Major Disasters.
Interrelationship between above factors	Scoped out	Assessed within each topic chapter under the heading Cumulative and Interactive Effects

1.8 THE EIA CONSULTANT TEAM

1.8.1 To ensure the completeness and quality of this ES it has been prepared by Pegasus Group. Pegasus Group is one of the founding members of the Institute of Environmental Management and Assessment (IEMA) Quality Mark which is a mark of excellence in EIA Co-ordination and management. Pegasus Group has obtained, and retained since inception, its EIA Quality Mark status which is assessed by IEMA.

1.8.2 The consultants, and their qualifications, which have contributed to the preparation of this ES are referenced in the project directory at the front of this document in the statement of competence.

1.9 THE ENVIRONMENTAL STATEMENT

1.9.1 The scope and content of the ES is based on the following:

- Review of the baseline situation through existing information, including data, reports, surveys and desk-top studies;
- Consideration of relevant National and Development Plan policies;
- Consideration of potential sensitive receptors;
- Identification of likely significant environmental effects and an evaluation of their duration and magnitude;
- Expert opinion;
- Modelling;
- Use of relevant technical and good practice guidance; and
- Specific consultations with appropriate bodies.

1.10 CUMULATIVE AND INTERACTIVE EFFECTS

1.10.1 Within EIA, cumulative effects are generally considered to arise from the combination of effects from the Proposed Development and from other proposed or permitted schemes in the vicinity, acting together to generate elevated levels of effects. The effects of the Proposed Development in combination with the following developments have been considered:

- 10MW Solar Farm, Land South Of The Railway Line & East Of Station Road, Elton, Nottinghamshire (planning reference: 14/01739/FUL Rushcliffe Borough Council). Constructed and operational. Approximately 4.5km north-west of Site.

- 12.4 MW Solar Farm, Lodge Farm, Longhedge Lane, Orston (planning reference: 13/01609/FUL Rushcliffe Borough Council). Constructed and operational. Approximately 4.5km north-west from the Site.

- 49.9MW Solar Farm, land south of the A1 (Foston- By-Pass), Foston, Grantham (planning reference: S20/1433 South Kesteven Council). Granted permission subject to conditions 1st March 2021. Approximately 4.9km north-east from the Site.

- 49.9MW Solar Farm, land east of Jericho Covert, Jericho Lane, Barkestone Le Vale (planning reference: 20/01182/FUL, Melton Borough Council). Validated 15th October 2020, still pending decision. Approximately 3.8km west of the Site.

1.10.2 Therefore, these will be considered within the cumulative assessment of this ES. The cumulative effects are considered in each technical chapter, they are not presented as a single standalone chapter within the ES. **Figure 1.2** shows the locations of these sites in relation to the Application Site.

1.11 GENERAL ASSUMPTIONS AND LIMITATIONS

1.11.1 The principal assumptions that have been made and any limitations that have been identified in preparing this ES are set out below:

- Information received from third parties is complete and up to date; and
- The design, construction and completed stages of the Proposed Development will satisfy legislative requirements.

1.12 APPLICATION SITE

Application Site

1.12.1 The Application Site extends to 103.53 hectares and comprises agricultural land. The Application Site is located to the west of the settlement of Muston and south-east of Bottesford. The Application Site is described as land within Belvoir Estate, Grantham, NG13 0FG, being centred on co-ordinates: X: 482177, Y: 337450.

1.12.2 The Application Site is located to the immediate south of the A52 which is a strategic trunk road linking the A1 to the A46, connecting Grantham to Nottingham. Castle View Road partially follows the western site boundary. To the south of the Application Site is the disused Grantham Canal.

1.12.3 The Proposed Development will be accessed via the existing access point on Castle View Road. Castle View Road is a single carriageway providing a link between the A52 in the north and Belvoir Road in the south. Castle View Road is accessed via a simple priority junction with the A52.

1.12.4 There are no International or European designated sites (Ramsar, Special Protection Area or Special Areas of Conservation) within close proximity of the Application Site. Muston Meadows National Nature Reserve (NNR) and Site of Special Scientific Interest is positioned adjacent to the southern site boundary and is split into two separate land parcels. In terms of local designations, the Application Site is c.800m west of a Local Wildlife Site.

1.12.5 The Application Site does not fall within any statutory landscape designations. The Application Site is not situated within or near to a designated Area of Outstanding Natural Beauty (AONB). The Application Site is located within National Landscape Character Area No. 48: Trent and Belvoir Vales.

1.12.6 Some existing vegetation and hedgerows are present along field boundaries around and within the Application Site. The Application Site is subject to a moderate degree of physical and visual enclosure which would provide screening and / or filtering of views available.

1.12.7 There are Public Rights of Way located within and in close proximity to the Application Site. These include footpaths F82/3 which connects Muston in the east to Castle View Road in the west, and F74/1 and F90/4 footpaths connecting Castle View Road to F82/3 footpath bisecting the Site. South of these PRoW's there is a bridleway F85a/2 which starts at Castle View Road and leads south towards Grantham Canal.

1.12.8 The entirety of the Application Site is located with Environmental Agency (EA) Flood Risk Zone (FRZ) 1 meaning the Site has less than 1 in 1000 annual probability of flooding by river sources.

1.12.9 No designated heritage assets are located within the Application Site boundary; however, a number of assets are located in close proximity to the proposed Site.

- Moated grange with fishpond at Muston (Scheduled Monument), located within Muston approximately 370m east of the eastern Site boundary.
- Muston village cross (Scheduled Monument), 70m east of Mountain Ash Farm and approximately 360m east of the Site boundary.
- Shifted medieval village earthworks and moat at Easthorpe (Scheduled Monument), located approximately 550m northwest of the northern Site boundary.
- Belvoir Castle, a Grade I listed building is located approximately 2.3km to the south of the Site. Belvoir Castle is set within a registered park & garden and conservation area.

1.12.10 Within a 1km radius of the Application Site there are ten listed buildings. Eight of the Listed Buildings are found at Muston, to the east of the Site. Two of these, the Church of St John the Baptist and the Village Cross are Grade II* Listed; the remainder are Grade II Listed. The two other Listed Buildings within 1km of the Application Site are both Grade II Listed and lie within Easthorpe Conservation Area to the north-west of the Application Site.

1.12.11 Locally there are Conservation Areas located within Easthorpe (approximately 285m north-west of the Site) and Bottesford (approximately 1.1km northwest of the Site). Whilst it is acknowledged that there may be effects on the setting of listed buildings, registered parks and gardens and Conservation Areas, these are unlikely to be significant or complex.

1.12.12 An Agricultural Land Classification survey of the Application Site has been undertaken, c.7ha of the Site in the north-western corner was graded as Grade 2 with the remaining Site area classified as Grade 3b which does not constitute 'Best and Most Versatile' agricultural land. Details of these areas can be seen in more detail in Appendix 8.1 of this ES.

1.12.13 An Environmental Designations Plan is shown on **Figure 1.3**

1.13 PROPOSED DEVELOPMENT

1.13.1 The Proposed Development is a solar farm and will comprise the following key components:

Use

1.13.2 It is proposed that the use of the Application Site will be for the development of a solar farm togenerate up to 49.9MW of renewable energy, involving solar PV panels and associated infrastructure. The Site Layout and Landscape Strategy is shown on **Figure 1.4**.

1.13.3 The proposed solar farm will involve the temporary change of use of the land but, due to the time restricted nature of the development, the agricultural use will be retained in the long term. The Application Site will also be capable of dual use farming during its operational period, with small livestock able to graze the land between and amongst the panels.

1.13.4 In addition, the minimal physical intrusion of the development itself will mean that the panels can be removed after their 40-year lifetime and the land will revert swiftly back to full agricultural use. In this respect, the proposed scheme will result in a less permanent impact than most other forms of development, including some alternative methods of renewable energy production.

Amount and Fabrication

1.13.5 Relatively small ancillary control buildings are required. **Figure 1.4** outlines the position of these structures within the Application Site.

1.13.6 A network of internal tracks around the solar parcels will be laid to allow vehicle access to the supporting equipment to allow for maintenance. The layout and extent of the roads is limited to that necessary to provide access and maximise efficiency.

1.13.7 The perimeter fencing and pole-mounted CCTV system serves an important purpose in protecting the valuable equipment within the Application Site.

Scale

1.13.8 The scale of development on Application Site has been determined by the equipment necessary to efficiently generate renewable energy. All of the plant buildings on Site will be at or below single storey level (i.e., approximately at or below a maximum of 2.5m in height) ensuring that they will not be readily visible from most viewpoints outsideof the Site and be limited in wider views. Even when viewed from nearby public vantage points, the scale of development will not be overbearing due to its limited height and relatively benign appearance (i.e., lack of movement and externalillumination etc.).

1.13.9 Each array of panels within the field will be mounted on a simple metal framework and have a maximum height of no more than 3m. The arrays would utilise a tracking system that uses an east/west system (90 degrees in the morning and 270 degrees in the evening) with elevation angles of up to +/- 60 degrees.

1.13.10 The main purpose of the mounting structure is to hold the modules in the required position without undue stress. It must be capable of withstanding appropriate environmental stresses for the location, such as wind or snow loading. The framework will be driven into the soil to depths between 1m to 2.5m and this will be guided by localised ground conditions, removing the need for deep foundations. Such supporting systems are designed to avoid the use of concrete foundations and are reversible leaving no trace when removed.

Appearance

1.13.11 Due to a combination of vegetation within and adjoining the Application Site, local topography and the low-level nature of the proposed development, the majority of views from outside of the Site will not be significantly affected by the proposed scheme.

1.13.12 In any case, the proposed measures of introducing additional new planting along the boundaries of the Site will help mitigate any effect on visual amenity. It is also noted the proposal would have a lower height of development than some agricultural practices covering large areas of rural land, such as glasshouses or poly-tunnels.

132 kV Substation

1.13.13 A 132kV substation will be required in order to connect the Proposed Development to the local electricity grid operated by the DNO. The location of the proposed substation is shown on **Figure 1.4**. The 132kV substation will become part of the local electricity distribution network and remain in place at the end of the 40 year operational period as required by the DNO.

Construction

Site Access

1.13.14 Access to the Application Site, for both construction and operation purposes will be taken via an existing access track off Castle View Road. The access is proposed to be improved to provide junction radii of 15 metres to the north and 3m to the south in order to accommodate construction vehicles turning left in and right out. Construction access points are shown on **Figure 1.4**.

1.13.15 Castle View Road is subject to the National Speed Limit (NSL) of 60mph, therefore, in line with the Design Manual for Roads and Bridges (DMRB), visibility splays of 2.4m x 215m are required. This is achievable, with the access having visibility splays of 2.4m x 114m looking to the right and 2.4m x 215m looking to the left.

1.13.16 Banksmen will be located at the Site access to assist the largest vehicles entering and exiting. HGVs will only be permitted to enter and exit the Site when Castle View Road is clear of traffic

1.13.17 Temporary signage will be erected in the vicinity of the Site during the construction phase. Banksmen will be provided if considered necessary by the Local Highway Authority.

1.13.18 It is envisaged that the designated routes for all traffic associated with the construction would be via the A52. The A52 is a major trunk road which regularly accommodates HGVs. From the A52, vehicles will access Castle View Road, from which the Site is accessed. The A52 connects to the M1 to the west of the Site and the A1 to the east.

1.13.19 When in full operation, the solar farm will not generate any significant traffic movements, with security and maintenance staff the only likely infrequent visitors who will use the network of internal tracks. The access used for construction will be maintained for this purpose during the operational phase and continue to be suitable.

1.13.20 Pedestrian access to the solar farm will be restricted for security purposes to prevent theft and vandalism. The routes of the existing public rights of way within the vicinity of the Application Site will be maintained at all times. When construction plant and machinery are accessing the Site, a banksman will be employed to control both pedestrian movements and traffic control throughout the duration of the construction phase.

Deliveries

1.13.21 It is anticipated a total of 875 deliveries over a six-month construction period, which can be accommodated by the existing road network without any significant effect.

Plant Equipment

1.13.22 Plant equipment would include but not be limited to the following:

Equipment	**Primary Function**

JCB Diggers	Trenching for cables
Dump Trucks	Earth removal if required
Vibrating Roller	Compacting access track
Piling machine (s)	Ramming piles of mounting frames into the ground
Telehandler (s)	Distributing materials
Crane	Capable of lifting inverter and transformer cabinets in to place.
Fuel Bowser	Refuel plant as required

Process

1.13.23 During the construction period the following activities will be undertaken:

- Site preparation will involve mowing the Site if required and marking out the Site;
- Erecting the security fence and internal fencing to protect trees, hedges and margins;
- Track construction;
- Piling the frames into the ground;
- Affixing the panels to the mounting frames;
- Trenching for the cable runs, and laying cables;
- Pouring the concrete bases for the cabinets and substations;
- Installation of the Inverters and Transformer cabinets;
- Connecting all the cables up and backfilling the cable trenches; and
- Removal of temporary surfaces.

Waste

1.13.24 The potential waste generated during the construction process will primarily be related to packaging, and will include:

- The pallets that the solar panels are packaged in. These will be either wood crates, or cardboard boxes. These will be removed from the Site on a regular basis. If they arrive on wooden pallets – then these will be returned to the manufacturers. If they arrive packaged in cardboard boxes, then these will be removed from Site on a regular basis, either through a hired skip, or through trips to the local recycling station.
- Packing materials for various components, such as screws, cabling, and mounting frames. Any non-recyclable waste will be stored in a skip for regular removal to an appropriate landfill.
- Food waste from workers. Personal rubbish will be collected along with non-recyclable packaging materials, for disposal at an appropriate landfill.
- Portable toilets will be hired for the duration of the construction period; therefore there will be no human waste issues.
- The Site involves some minor ground works. Excavated soil will be used for backfilling activities. However, if the level of excavated ground exceeds the backfilling requirements, then this soil will be removed and disposed of at an

appropriate landfillor sold to a landowner needing additional soil.

1.13.25 The contractor will ensure that all waste is disposed of responsibly from the Site.

Security

1.13.26 It is intended that the security fence that will surround the Solar Farm for the duration of its life will be erected prior to the construction phase of the Solar Farm, thus ensuring the Site is secure during this phase. However, if this is not possible, the Site will have 24-hour security on patrol in order to adhere to health and safety regulations as well as prevent crime.

1.13.27 A Health and Safety board identifying potential hazards will be updated daily, with all visitors required to sign in and adhere to on-site Health and Safety practices. All personnel working on Site will be required to wear a high visibility vest or jacket, steel cap boots, and a hard hat as well as any other activity-specific safety wear.

Storage

1.13.28 No long-term on-site storage is required as the HGVs and other vehicles will provide materials at regular intervals throughout the construction period as construction progresses, rather than being delivered all in one go.

Noise Management

1.13.29 Contractors will be required to conform to the construction noise code of practice BS 5228.

1.13.30 Construction and decommissioning works shall be undertaken between 0730 and 1800 Monday to Friday, and 0730 to 1300 on Saturdays. If required by the highway authority construction traffic and delivery vehicles will be limited to outside the peak hours on Monday to Friday (1000-1600) and on Saturdays between 0800-1900.

1.13.31 Noise levels during construction and decommissioning will not exceed an LAeq, T noise level of 65 dB 1-metre from the façade of any occupied residential dwelling.

Air Quality and Dust Management

1.13.32 Given the nature of the Site, greenfield, we do not anticipate any significant dust issues to arise.

Management and Protection of Ecological Resources

1.13.33 The Application Site is currently agricultural land, which is typically considered to have low wildlife values. Wildlife on Site is likely to be concentrated around boundaryhedges and trees. There is however the possibility of ground nesting birds being located within the construction area on the Site. There is also possibility of the presence of Badgers in the area. Contractors will be briefed prior to the start of works about the potential presence of nesting birds and badgers onsite. The following measures will be employed to manage and protect onsite ecological resources during construction:

- The majority of boundary hedges are to be retained with all works set back from the hedges.
- The security fence will be installed inside the boundary vegetation, and all subsequent construction and deconstruction work will take place inside the security fence, thus the construction area will be isolated from any animals

traversing the Site.

- If any construction works are undertaken within the nesting season (March to August), the Site will be mown regularly to discourage nesting onsite prior to commencement ofworks. Checks for nesting birds will be undertaken immediately prior to works taking place. If any birds are found to be nesting on the ground in locations where planned works will disturb them, then those works will be delayed until nesting is complete, i.e. when the young have fledged (departed) the nest, or when a nesting attempt has beenabandoned. It is likely that 1 month would be the maximum period works in any area would need to be delayed if birds are found to be nesting on the ground.

Decommissioning

1.13.34 When the Proposed Development ceases operation, all major equipment and structures would be removed from the Site over a six-to-nine-month period.

Alternatives

1.13.35 The EIA Regulations (Schedule 4, Part I (2)) require for inclusion in an ES: "A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects".

1.13.36 In response to the above, the alternatives to the Proposed Development which the Applicant has considered include:

- No Development Alternative; and
- Alternative Designs.

No Development Alternative

1.13.37 The no development alternative would result in the Application Site being maintained in its current state and the existing baseline conditions prevailing. It is considered that the no development alternative would result in the loss of an opportunity to provide a new renewable energy development that would contribute tosustainable development in accordance with local and national policy.

1.13.38 The selection of the Application Site is based on a number of factors which identify the Site as suitable for accommodating a solar farm. These include:

- Capacity of Electricity Network and Ability to Connect
  - The solar farm needs to be capable of connecting to the Electricity Network at a location where there is existing capacity.
  - Further, the Applicant is required to have agreement from the District Network Operator (DNO) to export electricity at that location;
- Viable connection
  - A scheme of this scale is required to connect into a 132kV High Voltage (HV) line in order to export electricity.
  - The cost of a 132kV cable to connect back to the Point of Connection (POC) to the Electricity Network is c.£1million per kilometre. As such, the substation allowing connection to the Electricity Network cannot be more than 1km from the point of connection, as any further distance would incur excessive connection costs and make the scheme unviable.
  - The Applicant therefore considers land within 1km of locations at which there is sufficient capacity on the Electricity Network and to which they have legal right to export electricity;

- Viable Scale and Land Ownership
  - The Applicant requires sufficient land to accommodate a solar PV development with a capacity of 49.9MW in order to achieve viability. The land requirements vary depending on various matters, but a significant area of land is required to maximise efficiency and yield of the solar farm to maximise renewable energy benefits.
  - Only land where the owner is interested in the proposed development is considered available to accommodate a solar farm;
- Availability of Previously Developed Land
  - A review of Melton Borough Council Brownfield Land Register (2021) has been undertaken. All of the sites on the Melton Borough Council Brownfield Land Register are below 10ha and are therefore not suitable for the scale of the proposed development;
- Topography;
- Potential for screening by existing vegetation;
- Location in relation to environmental designations;
- Located on lower grade agricultural land;
- Located on land with a low probability of flooding;
- Site or adjacent features provide opportunities to improve the ecological value of the Site; and
- Location set back from nearby settlements, public rights of way and properties toreduce potential effects on visual amenity, with potential views for individual residences /property groupings considered in the landscape and visual assessment and detaileddesign.

1.13.39 As a result of the iterative process, the Proposed Development, although covering a large area of land, is confined to locations where effects have been limited as far as possible. This is also considered in the context of the scheme benefits, including to support the UK's renewable energy increase and CO_2 reduction legally binding targets. Consideration of the planning balance which weighs up all material factors associated with the planning application is contained within the accompanying **Planning Statement.**

Alternative Designs

1.13.40 The Applicant has taken into consideration various environmental constraints in the design of the proposal in order to avoid adverse effects. These are set out in **Table 1.2**.

Table 1.2 Environmental Constraints and Design Response

Topic	Environmental Constraint	Alternative Design
Landscape and Visual	Views from local PRoW's	Increased setbacks from PRoW; and implementing new lengths of hedgerow along footpaths and accommodating the routes within a 10m wide Green Infrastructure Enhancement Corridor which includes wildflower buffers/margins. Provision of proposed woodland, native hedgerows and trees at key locations within the site to provide

		additional visual screening.
Biodiversity	Flora and fauna loss or disruption within site	Provision of proposed native woodland, hedgerows and trees within site. Planting a species-rich grassland on the land beneath and surrounding the panels and creating a botanically diverse species-rich wildflower grassland outside of the security fence and alongside the retained and proposed on-Site footpaths. A canal side community orchard is located within the southern end of the Site. Introduction of hibernaculum, insect hotels, beehives, bird and bat boxes and Skylark nesting areas to encourage wider biodiversity within the Site.
Cultural Heritage	Areas of archaeological interest identified	Development excluded from fields closest to Easthorpe Lane to remove any adverse effect on the experience of nearby Schedule Monuments, and exclusion of several fields south of Footpath F82 to allow for uninterrupted views southwards towards Belvoir Castle from several vantage points.
Transport and Access	Public Rights of Way through the Site	Solar panels set back from the PRoW to minimise the possible impact from the development. Access improvements to the existing track off Castle Road to accommodate construction vehicles turning left in and right out.
Noise	Residential properties surrounding the proposed solar farm, which have the potential to be affected by noise attributable to the operation of the Proposed Development	Inverters are located at positions maximising separation from neighbouring properties. Inverters are connected to a substation, located within the southern area of the site, away from noise sensitive receptors.
Agricultural Resources	Grade 2 agricultural land.	Design of the Site falls within the majority Grade 3b (96.2ha). Only small section of the site is Grade 2 (BMV), 7.3ha. The area on which the solar panels will be placed can continue to be grazed by sheep

		and for ecological purposes.

1.13.41 Further details on the above are provided in each of the respective technical chapters under the heading 'Mitigation and Enhancement'. The above therefore illustrates an iterative approach to design, which has been incorporated into the Proposed Development as 'embedded mitigation' or 'mitigation by design'.