Boyah Grange Solar Farm – EIA Screening Report

Abei Energy Ltd

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Ecus Ltd

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1. Introduction

1.1 Overview

1.1.1 On behalf of AEUK Solar Project II '(Abei Energy UK / 'The Applicant'), Ecus Ltd have prepared this Screening Report to formally request an Environmental Impact Assessment (EIA) Screening Opinion from Erewash Borough Council (EBC) as the Local Planning Authority (LPA) for the Proposed Development of a solar farm, and associated infrastructure on approximately 48.4 ha of land approximately 330m south of Dale Abbey, in Derbyshire.

1.1.2 This request is made under Regulation 6 (1) of the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2017 ('the EIA Regulations').

1.1.3 The 'Proposed Development' comprises the installation of ground-mounted photovoltaic ('PV') panels with inverter stations, switch room, site accesses, security measures (fences, CCTV cameras), other ancillary infrastructure and landscaping and biodiversity enhancement measures.

1.1.4 Once commissioned, the Proposed Development would generate approximately 34 megawatts ('MW') of electricity.

1.2 Requirement for an EIA

1.2.1 The first stage of the EIA process is to determine whether or not the Proposed Development constitutes 'EIA Development'. In accordance with Regulation 2 (1) of the EIA Regulations 2017, 'EIA Development' means "development which is either—

(a) Schedule 1 development; or

(b) Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location."

1.2.2 Schedule 1 Development means "development, other than exempt development, of a description mentioned in Schedule 1." Schedule 2 Development means "development, other than exempt development, of a description mentioned in column 1 of the table in Schedule 2 where—

(a) any part of that development is to be carried out in a 'sensitive area'; or

(b) any applicable threshold or criterion in the corresponding part of column 2 of that table is respectively exceeded or met in relation to that development."

1.2.3 The Proposed Development does not fall under Schedule 1, but it does fall under Section 3(a) of Schedule 2 of the EIA Regulations: "industrial installation for the production of electricity, steam

and hot water (unless included in Schedule 1)".

1.3 Purpose of the Report

1.3.1 The purpose of this report is to provide EBC with the information required under Regulation 6(2) of the EIA Regulations 2017 to adopt a screening opinion. Table 1.1 below, details where this information can be found in this report.

Table 1.1 Information required under Regulation 6(2) of the EIA Regulations 2017

Clause of EIA Regs	Information Required	Location within this Report
6 (2)(a)	A plan sufficient to identify the land;	Figure 1 and 2
6 (2)(b)	A description of the development, including in particular:	Chapter 2
6 (2)(b) (i)	> a description of the physical characteristics of the development and, where relevant, of demolition works;	Chapter 2.2
6 (2)(b) (ii)	> a description of the location of the development, with particular regard to the environmental sensitivity of geographical areas likely to be affected;	Chapter 2.1
6 (2)(c)	A description of the aspects of the environment likely to be significantly affected by the development;	Chapter 3.1 – 3.11
6 (2)(d)	To the extent the information is available, a description of any likely significant effects of the proposed development on the environment resulting from:	Table 3.1
6 (2)(d) (i)	> the expected residues and emissions and the production of waste, where relevant; and	Table 3.1
6 (2)(d) (ii)	> the use of natural resources, in particular soil, land, water and biodiversity; and	Table 3.1
6 (2)(e)	Such other information or representations as the person making the request may wish to provide or make, including any features of the proposed development or any measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment.	Table 3.1

2. Description of the Proposed Development

2.1 Site Description

Site Footprint

2.1.1 The Site occupies approximately 48.4 ha of land approximately 330m south of Dale Abbey, in Derbyshire (National Grid Reference (NGR) SK 44026 38041) (Figure 1).

2.1.2 The current land use within the footprint of the Proposed Development is mainly arable, of Grade 3 Agricultural Land Classification (ALC) which has good to moderate agricultural land quality currently used for crops and sheep grazing. However, there is a smaller area of Grade 4 ALC in the north of the Site which has poor agricultural land quality. Two Public Rights of Way (PRoW) intersect the Site: Footpath Dale Abbey-E3 45 which runs across the middle of the Site and Footpath Dale Abbey-E3 46/2 which runs across a small section on the northern parcel of the Site. The Site is divided into 12 parcels with scattered trees and hedgerows between their boundaries.

2.1.3 There are a two ditches on site that intersect the site before joining and following the western boundary of the Site. These ditches are hydrologically connected to Ock Brook approximately 20m south of the Site.

Site Surroundings

2.1.4 The Site is located approximately 330m south of Dale Abbey and 1.3km north of Ockbrook, in the Erewash district of Derbyshire. The Site is located largely within the Dale Abbey Civil Parish with the southern corner of the Site being located within the Ockbrook and Borrowash Civil Parish. The surrounding land use is largely characterised by agriculture used for growing crops and grazing livestock, interspersed with hedgerow, small parcels of woodland such as Ockbrook Wood and Hermits Wood immediately north of the Site and Swisshut Plantation immediately south of the Site. Access to the Site is via Potato Pit Lane to the east which provides connectivity to Dale Abbey and the M1 motorway approximately 3km to the east. In the wider area, the city of Derby is located approximately 8km west and the city of Nottingham approximately 12km east.

2.1.5 Notable landmarks within the local area include the Hermitage Scheduled Monument located approximately 70m north of the Site within Hermits Woods and All Saints Church Grade 1 listed building located in Dale Abbey to the north of the Site.

The Proposed Development

2.1.6 The Proposed Development is a solar photovoltaic (PV) farm with an export capacity of approximately 34 megavolt-amperes (MVA) located at Boyah Grange Farm.

2.1.7 The Proposed Development would include the following equipment and infrastructure:

a) rows of solar PV panels:

b) inverter cabins and transformers;

c) switch room;

d) meteorological station;

e) internal access tracks;

f) security measures and other ancillary infrastructure; and

g) landscaping and biodiversity enhancement measures.

2.1.8 The final design shall include the following elements, however, please note that the specific dimensions and layout of the Proposed Development has not been fixed and will be informed by specialised technical assessments and optimised during the detailed design stage.

Solar PV Modules

2.1.9 The Proposed Development would comprise of numerous PV cells (approximately 75000 PV modules) located in rows (or arrays/tables – refer to Figure 2). The PV array will be displayed out in rows on an east-west configuration across the Site so that the panels face due south towards the Sun. They will be supported on metal poles that are driven into the ground. The PV cells convert energy from the Sun to direct current (DC) power, which is then transmitted to inverters and transformers within small cabins on Site. There will be sufficient space between each row so that the Site can remain in agricultural use, e.g. sheep grazing.

Inverter Cabins and Transformers

2.1.10 The Proposed Development would include seven inverters and transformers, within four locations, within the PV panel array. These would be within appropriately coloured cabins on concrete bases (refer to Figure 2 for indicative locations). The inverters would receive the DC generated by the solar panels and convert it into alternating current (AC). The transformers would convert the low voltage output to the high voltage output required for feeding into the local electricity distribution network.

Switch Room

2.1.11 The connection into the grid network would require a 33kV switch room. Underground cables would be installed from the switch room to connect to the inverters and transformers.

2.1.12 Further design studies are taking place with the Distribution Network Operator (DNO) to determine the exact method and cable route for connection into an off-site substation. Any offsite cable route would be subject to an additional planning application.

Meteorological Station

2.1.13 A meteorological station would be installed to collect on-going meteorological data. This would be located adjacent to the switch room (refer to Figure 2) and consist of a cabin with meteorological sensors and a transmission dish.

Internal Access Tracks

2.1.14 The Site would be accessed via Potato Pit Lane to the east. A Construction Traffic Management Plan will be produced to determine appropriate visibility splays and signage strategy, if required.

2.1.15 Internal access tracks would be utilised to facilitate movement within the Proposed Development for construction and on-going maintenance. These would be constructed of permeable stone material laid over a membrane. These will be easily removed following the expiring of the temporary planning permission.

Security Measures

2.1.16 The solar PV array and associated infrastructure would be enclosed by a 2m high deer proof security fencing, with secured vehicle and pedestrian access gates installed at the highway access point to allow for periodic maintenance visits. The fence would not be dug into the ground, thereby ensuring permeability for small mammals, and will be located at a minimum of 5m (or wider if required to facilitate root protection zones) from boundary features.

2.1.17 An infrared, motion sensor Close-Circuit Television (CCTV) security system would be installed around the perimeter of the solar array which will avoid the need for floodlighting of the Site. The CCTV system would ensure 24-hour surveillance of the entire Site perimeter and would be managed by an intelligent sensor management system. The cameras would be installed on security fencing posts, extended to 2.5m in height when required to accommodate a camera. The camera spacing would be as necessary to ensure sightlines cover the entire perimeter.

Landscaping and Biodiversity

2.1.18 The Proposed Development would be designed to respect the character of the landscape and use the existing field boundaries to aid in integration into the landscape as far as practicable.

2.1.19 All existing trees and hedgerows around the Site perimeter would be retained unless required by County Highways for safe access arrangement onto the county highway. Furthermore, additional planting will be provided, where necessary, to fill gaps in the existing vegetation. Strategic planting would be implemented to assist in the general screening of the Proposed Development.

2.1.20 It is envisaged that buffers will be left between the solar PV panel arrays and any retained boundary hedgerows. These will be seeded with native wildflower and bird seed mix to encourage biodiversity

on Site.

2.1.21 Additional biodiversity enhancement features, such as bird boxes, hibernacula and wood piles, would be included within the design to further encourage biodiversity on Site.

Construction

2.1.22 The construction phase of the Proposed Development is expected to last approximately 36 weeks. During this period, the initial site setup works (site access improvements and construction compound / welfare facilities) would commence followed by construction of the internal accesses, ground works, and the installation of the solar PV panels and other infrastructure. Fencing would be installed around the perimeter of the Site (refer to **Section 2.1.16**, above).

2.1.23 Facilities would be provided for construction workers within the Proposed Development boundary. This would include a site office, welfare facilities (toilets, changing and drying facilities, canteen and temporary parking).

2.1.24 During the 36 week construction period, it is proposed that construction working hours would be as follows:

a) 08:00 – 18:00 Monday to Friday; and

b) 08:00 – 13:00 Saturday.

2.1.25 Should work be required to be undertaken outside of these times, this would be agreed in writing with EBC. At the end of each day, all mobile plant would be returned to a secure overnight plant storage area.

2.1.26 A Construction Environmental Management Plan (CEMP) would be implemented during the construction period to manage the potential construction related environmental impacts.

2.1.27 It is anticipated that there will be minor quantities of waste generated through the construction phase. The waste hierarchy will be followed, with disposal of waste being avoided where possible. Any waste will be disposed of off-site at an approved waste disposal facility (in accordance with relevant and current legislation).

Operation

2.1.28 Once operational, regular maintenance, such as cleaning of the solar PV panels with water to ensure the efficiency of the system, and other infrastructure would be required.

2.1.29 It is expected that under normal circumstances no more than one or two cars or vans would visit the Site each week (generally spread to less than one a day) to allow for general maintenance

activities to take place.

2.1.30 The Site would be retained in agricultural use for the life of the Proposed Development and this will remain it's primary use. The majority of the Site would be planted with a combination of grassland / meadow to enable grazing by sheep. This would include land between and underneath the solar PV panels.

Decommissioning and Restoration

2.1.31 At the decommissioning stage of the Proposed Development's circa 40-year lifespan, the solar PV panels and other infrastructure (inverters, switch room, among others) would be removed, the minor elements of intrusive foundations and hard surfacing would be broken out, and the Site restored back to solely agricultural use.

2.1.32 The restoration process will ensure that the land is returned, as a minimum, to the same quality as the pre-development baseline.

2.1.33 Where possible, all components and materials will be recycled. Elements that cannot be recycled will be disposed of off-site at an approved waste disposal facility (in accordance with relevant and current legislation).

2.2 Planning Status

2.2.1 The Proposed Development responds to both the UK Government's and the Local Planning Authority's support for solar energy by providing a renewable energy supply that would reduce carbon emissions and assist in establishing a greater diversity of energy sources in the UK.

2.2.2 The Government's National Planning Policy Framework (December 2023) places considerable emphasis on LPA's to deliver renewable energy schemes. Planning Policy Guidance (Reference – ID:5-001-20140306) states that, through increasing the amount of energy produced from renewable and low carbon technologies, it will help to ensure the UK has a secure energy supply and reduce greenhouse emissions.

2.2.3 The Government's Overarching National Policy Statement (NPS) for Energy (EN-1) (November 2023) states in 3.3.62 that "Government has concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure". In 3.3.63 it states "Subject to any legal requirements, the urgent need for CNP Infrastructure to achieving our energy objectives, together with national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts not capable of being addressed by the application of the mitigation". Section 4.2.5 confirms that "all onshore and offshore generation that does not involve fossil fuel combustion (that is, renewable generation…)" constitute low carbon infrastructure and

are therefore CNP infrastructure. While the Proposed Development falls below the 50MW threshold for the Planning Act 2008 to be applicable, and as such is subject to the Town and Country Planning Act, NPS EN-1 and EN-3 demonstrate the national need for solar energy development such as this.

2.2.4 The Site is located in Erewash Borough Council. It is considered that the Proposed Development will make a valuable contribution to the Erewash district's potential for additional renewable energy development, as supported by Policy 1 of the Erewash Core Strategy (2011 – 2028)[1].

2.2.5 Policy 1, states the following:

> *"Tackling climate change is a major challenge. It is a global problem requiring local action. Major changes in attitude and practices are required if we are to make changes to the earth's climate and reverse the effects of global warming. National objectives to address climate change will not be achieved without substantial efforts to reduce energy consumption and increase energy produced from naturally occurring, renewable sources."*

2.2.6 The Site is located within the Green Belt of Policy 3 of the Erewash Core Strategy (2011 – 2028).

2.2.7 Policy 3, states the following:

> *1.The principle of the Nottingham-Derby Green Belt will be retained. Within Erewash, when considering proposals for development within the Green Belt, regard will be given to:*
>
> *a) the statutory purposes of the Green Belt;*
>
> *b) maintaining the strategic openness of the Green Belt between the towns of Ilkeston and Long Eaton and the Derby urban area;*
>
> *c) ensuring the continued separation of neighbouring towns and rural settlements within Erewash Borough;*
>
> *d) safeguarding valued countryside; and*
>
> *e) preserving the setting and special character of Erewash towns and rural settlements.*

2.2.8 Furthermore, the Proposed Development will take into consideration paragraph 156 of the National Planning Policy Framework (NPPF).

> *'When located in the Green Belt, elements of many renewable energy projects will*

[1] https://www.erewash.gov.uk/images/Planning_Policy/ErewashCoreStrategy2011-2028.pdf (Accessed April 2024)

comprise inappropriate development. In such cases developers will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources.'

2.2.9 Evidence regarding the very special circumstances for the development will be provided to support the planning application.

3. Environmental Aspects

3.1 Context

3.1.1 This chapter considers the aspects of the environment with the potential to be significantly affected by the construction and / or operation and / or decommissioning of the Proposed Development, together with a description of any likely significant effects of the Proposed Development on the environment and any measures envisaged to avoid, prevent or reduce and if possible, offset what might otherwise have been significant adverse effects on the environment. In accordance with Schedule 3(3) of the EIA Regulations 2017, the consideration of likely significant effects of the Proposed Development on the environment has taken into account:

a) "The magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);

b) the nature of the impact;

c) the transboundary nature of the impact;

d) the intensity and complexity of the impact;

e) the probability of the impact;

f) the expected onset, duration, frequency and reversibility of the impact;

g) the cumulation of the impact with the impact of other existing and/or approved development;

h) the possibility of effectively reducing the impact."

3.1.2 The aspects of the environment are reported in this EIA Screening request in accordance with the environmental factors listed within Regulation 4(2) of the EIA Regulations (2017):

- Population and Human Health;
- Biodiversity;
- Land;
- Soil;
- Water;
- Air;
- Climate;

- Material Assets;
- Cultural Heritage;
- Landscape.

3.2 Population and Human Health

3.2.1 It is anticipated that the construction works could cause a temporary minor increase in noise disturbance to local residents as a result of construction traffic and use of plant facilitating the construction of the Proposed Development. However, standard mitigation measures would be implemented throughout the construction such as avoiding early morning and evening work. As such it is anticipated that the proposed development would not have a significant noise impact during construction.

3.2.2 During operation it is not anticipated there will be any significant noise disturbance to local residents. However, this will be determined by a Noise Impact Assessment which will accompany the planning application.

3.2.3 The construction or operation phase is not anticipated to generate likely significant effects in relation to population and human health.

3.3 Biodiversity

3.3.1 A Preliminary Ecology Appraisal (PEA) will be prepared to support the planning application. The purpose of the PEA is to record and map habitats and assess the potential for the Site to support (or contain) species, which are protected under UK and/or European nature conservation legislation.

3.3.2 From an initial desk-based assessment, the Site habitats largely comprise arable fields, hedgerow, and a mixture of mature and semi-mature trees. It is proposed the following protected species surveys will be undertaken as PEA.

- Breeding bird surveys;
- Wintering bird surveys;
- Badger surveys;
- Bat activity surveys;
- Great Crested Newt (GCN) Habitat Suitability Survey (HSI); and
- Otter and water vole survey.

3.3.3 The Site is not located within 2 km of any European or Nationally significant designated sites for ecology. At a local level the Site is located approximately 1.8 km south of Pioneer Meadows Local Nature Reserve. However due to the proximity and limited connectivity with the nature reserve it is not considered to be a likely receptor to the proposed development.

3.3.4 The Proposed Development will retain all existing boundary hedges and tress as well as reinforcing these with additional native species planting. Buffer zones between hedgerows will be left and seeded with wildflower and wild bird seed mix. Pre-construction surveys will be carried out to ascertain the current ecological status of the Site and its surrounding area, including that of any protected or notable habitats and species, with recommendations made by professional ecologists on how to safeguard and improve the biodiversity of the Site. It is anticipated that the Site will achieve a substantial Biodiversity Net Gain (BNG). This would be demonstrated by a full BNG assessment submitted together with the planning application.

3.3.5 The construction or operation phase is not anticipated to generate likely significant effects in relation to biodiversity.

3.4 Land

3.4.1 The relief of the land will remain the same throughout the lifetime of the Proposed Development. The land will be returned to sole agricultural use following the completion of the temporary planning permission for the solar farm.

3.4.2 The construction or operation phase is not anticipated to generate likely significant effects in relation to land.

3.5 Soil

3.5.1 The Site is largely comprised of Agricultural Land Classification (ALC) Grade 3 land, good to moderate currently used for crops and sheep grazing, with a smaller area Grade 4 poor quality agricultural land in the north of the Site. A full ALC Assessment will be undertaken to establish whether there is there is any Best and Most Versatile (BMV) agricultural land on site. It is however considered that there will be improvements in soil quality over the lifetime of the Proposed Development. Sections of the Site which are currently used for livestock will continue to grazed by sheep during operation on the Proposed Development and therefore soil in these sections of the Site are not anticipated to be impacted by the Proposed Development. The land cultivated for arable production would be ploughed and the crops treated with fertilisers, chemical weed killers and pesticides. It would also be subject to general soil erosion and nutrient loss through run off and leaching. The ‘resting’ or ‘fallowing’ of the farmland for a period of circa 40 years will have direct benefits by allowing the soil to replenish its nutrients through time. Fallowing can cause the

rise of potassium and phosphorous from deep below the ground toward the soil surface where it can be utilised by crops. Other benefits of fallowing include the increase of levels of carbon, nitrogen and organic matter to be locked within the soil, it improves the moisture holding capacity, and increases beneficial microorganisms in the soil. Studies have shown that a field that has been allowed to lie fallow for just a year, produces a higher crop yield when it is planted afterwards.

3.5.2 The construction or operation phase is not anticipated to generate likely significant effects in relation to soil.

3.6 Water

3.6.1 The fallowing of the land will improve its moisture holding capacity and increase beneficial microorganisms in the soil. This in turn should reduce water run-off and allow the soil to retain water rather than cause localised flooding or pooling. The Environment Agency's flood map data states that the Site is located within a Flood Zone 1, which is assessed as very low probability of flooding (less than 1 in development 1000 (0.1%) risk of annual flooding). Whilst the Site is within Flood Zone 1, a Flood Risk Assessment will be carried out and submitted together with the planning application to confirm mitigation strategies.

3.6.2 Minimal areas of hardstanding will be required as part of the Proposed Development and a drainage strategy will be submitted with the planning application.

3.6.3 There are on site ditches which flow through the Site and are hydrologically connected with Ock Brook approximately 20m south of the Site. Standard mitigation measures will be implemented during construction to minimise the potential for pollution entering these watercourses such as damping down of internal access tracks in periods of prolonged dry weather. The Proposed Development will not produce any pollutants, once operational, that may find their way into watercourses.

3.6.4 The construction or operation phase is not anticipated to generate likely significant effects in relation to flood risk, drainage and water quality.

3.7 Air

3.7.1 There are no assigned Air Quality Management Areas (AQMA) within or adjacent to the Site.

3.7.2 During construction localised temporary air quality impacts could arise during construction from dust generation. The relevant guidance indicates that there is potential for adverse impacts where human receptors are located within 350 m of the Site boundary or ecological receptors are located within 50 m of the Site boundary. Whilst both criteria are met for the Proposed Development, the proposed earthworks are anticipated to be small scale with potential impacts to sensitive receptors

to dust soiling effects being limited due to use of appropriate mitigation measures. The risk of dust impacts resulting from the proposed earthworks and construction is therefore classified as negligible.

3.7.3 Due to the temporary nature of the potential air quality and dust impacts and use of appropriate control procedures, it is not anticipated that any further air quality assessments will be required.

3.7.4 The Proposed Development will not produce any airborne pollutants during operation.

3.7.5 The construction or operation phase is not anticipated to generate likely significant effects in relation to air quality.

3.8 Climate

3.8.1 The Proposed Development would produce sufficient renewable electrical energy for the local grid network to supply approximately 14400 households. It will therefore, make a positive contribution towards climate insofar as this energy generation does not produce carbon emissions. This is in accordance with both county and national goals of the production of renewable energy, as well as contributing towards reducing the impact on climate change.

3.8.2 The construction or operation phase is not anticipated to generate likely significant effects in relation to climate.

3.9 Material Assets

3.9.1 Whilst the infrastructure of the Proposed Development will involve the manufacturing process, once it is erected there is minimal additional assets required. The PV panels should last for the 40-year lifetime of the Proposed Development and, whilst there will be some repairs and replacements, this will be very minimal. There will be no piped drinking water needed with water being brought onto the Site by the operatives during their Site visits. Replaceable chemical toilets may be included. All materials on Site, during and after the lifetime of the solar farm will be recyclable, as far as reasonably practicable.

3.9.2 The construction or operation phase is not anticipated to generate likely significant effects in relation to material assets.

3.10 Cultural Heritage

3.10.1 An additional specialist assessment will be made regarding the Site’s potential for previously unknown archaeological remains and impact on the setting of cultural heritage assets. An initial assessment of heritage assets has been undertaken which has identified the following features of heritage interest.

- Dale Abbey Conservation Area located approximately 30m north of the Site.
- Hermitage Scheduled Monument located approximately 70m north of the Site.
- Dale Abbey Scheduled Monument located approximately 280m north of the Site.
- Church of All Saints and Vergers Farmhouse Grade I listed building located approximately 220m north of the Site.
- Boyah Grange Grade II listed building located approximately 60m east of the Site.

3.10.2 Whilst there are a small number of heritage assets within close proximity to the Site, there would be no direct impacts on these assets and initial analysis indicates that indirect effect on the setting of these heritage assets will be limited due to existing screening from adjacent woodland and topography of the land. However, this will be fully assessed with the Heritage Statement that will accompany the planning application.

3.10.3 The construction or operation phase is not anticipated to generate likely significant effects in relation to cultural heritage.

3.11 Landscape

3.11.1 There are no National Landscapes or National Parks within 10 km of the Site. Within the Derbyshire Landscape Character Assessment the Site is located within the Plateau Estate Farmlands (DCC, 2003). This landscape is characterised by broad, gently undulating landscape, with pastoral farming, localised arable cropping and small villages. The Site is located within the Green Belt of Policy 3 of the Erewash Core Strategy (2011 – 2028).

3.11.2 Two Public Rights of Way (PRoW) intersect the Site including Footpath Dale Abbey-E3 45 which runs across the middle of the Site and Footpath Dale Abbey-E3 46/2 which runs across a small section on the northern parcel of the Site. It is anticipated that the Site will be visible from the onsite PRoW's, however impacts on recreational receptors will be fully assessed as part of the Landscape and Visual Appraisal (LVA) being undertaken as part of the planning application.

3.11.3 The LVA will assess the landscape and visual impact of the proposals and inform the design of the Proposed Development. The LVA will assess the following key considerations;

- Baseline conditions of the Site and its environs and to identify any relevant legislation, policy and guidance concerning Landscape Resource and Visual Amenity.
- Determine and evaluate the sensitivity of the landscape and visual receptors to the type of changes proposed.

- Set out any mitigation measures that may be required to prevent, reduce or offset any likely important effects arising from the Proposed Development.
- Outline the potential resulting residual effects following implementation of the mitigation measures.

3.11.4 Taking into consideration the height of the existing boundary hedges / trees and the low height of the Proposed Development (<3.6m), as well as additional planting that is proposed, it is anticipated that there will only be minor impact upon the immediate local landscape via distant views across the Site.

3.11.5 The construction or operation phase is not anticipated to generate likely significant effects in relation to landscape.

3.12 Other Issues

Major accidents and disasters

3.12.1 The EU Directive 2014/52/EU also requires the consideration of the vulnerability of the Proposed Development to risks of major accidents and / or disasters, and any consequential changes in the predicted effects of that Proposed Development on environmental factors. The Proposed Development is not considered to be vulnerable to major accidents or disasters due to the relatively remote Site location, i.e., remote from large-scale infrastructure, lack of environmentally sensitive receptors in proximity, and benign nature of the operational development. As such no assessment relating to major accidents or disasters is proposed.

Heat and radiation

3.12.2 The EU Directive 2014/52/EU also requires consideration of the likely significant effects of the Proposed Development on the environment resulting from heat and radiation. The Proposed Development is not considered to result in likely significant environmental effects from heat and radiation. While there may be a minor increases in ambient air temperatures due to PV 'heat island effect', this is not considered to be significant due to the lack of environmentally sensitive receptors in close proximity.

3.13 Environmental Summary

3.13.1 A summary of the environment aspects with the potential to be significantly affected by the construction and / or operation and / or decommissioning of the Proposed Development, is provided in Table 3.1 below. Table 3.1 provides a description of any measures envisaged to avoid, prevent or reduce and if possible, offset what might otherwise have been significant adverse effects on the environment and presents a statement of the likely significance or otherwise of the residual effects.

Table 3.1 Summary of potential environmental effects and likelihood of residual significant effects.

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
Population and Human Health	Local Residents/ Community	Construction / Decommissioning	Disturbance associated with noise, vibration, dust, particulate matter and light pollution, generated by temporary on-site activities.	A Construction Environmental Management Plan (CEMP)/Decommissioning EMP (DEMP) to be implemented during the construction / decommissioning stages. The CEMP/DEMP would include standard / best practice measures to reduce temporary environmental effects e.g., general noise and vibration control measures listed in BS5228:2009+A1:2014, Site Lighting Plan, among others.	Not significant
Population and Human Health	Local Residents/ Community	Construction / Decommissioning	Increase in pollutant concentrations (NOx, NO_2 and PM10) from exhaust emissions arising from	A CEMP/DEMP to be implemented during the construction / decommissioning stages. The CEMP/DEMP would include standard / best practice measures to reduce NOx, NO2 and	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
			construction / decommissioning traffic, both on Site and in proximity to the Site access routes.	PM10 emissions, e.g., use of electric vehicles where possible, use of ultra-low sulphur diesel, restricting engine vehicle idling. The CEMP/DEMP would include a Site Access Plan identifying permissible routes for construction / decommissioning traffic. The routes would utilise the Strategic Road Network and avoid passing through built up / residential areas as far as practicable.	
Population and Human Health	Local Residents / Community	Operation	Changes in pollutant concentrations (NOx, NO_2 and PM10) from exhaust emissions arising from maintenance vehicles.	Minor traffic (one to two vehicles weekly) are anticipated to visit the operational Site. No specific mitigation measures are proposed.	Not significant
Population	Local	Operation	Disturbance associated with	A Noise Impact Assessment to be undertaken	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
and Human Health	Residents / Community		operational noise.	to determine any noise effects. It is unlikely that mitigation measures, e.g., noise fencing, will be required, but they would be implemented if necessary.	
Biodiversity	Protected Species and Habitats	Construction	Loss and fragmentation of habitat utilised by protected species. Damaging, destroying or disturbing breeding or resting places utilised by protected species.	UK Habitat (UKHab) Classification Survey and desk study, including contacting relevant Biological Centre Records, to be undertaken to inform Site constraints / baseline conditions. The requirement for further surveys to identify likely presence / absence of protected and / or notable species to be determined following the UKHab and desktop survey. Should protected and / or notable species be identified on Site, consultation would take place with Erewash Borough Council ecological officers and / or Natural England to	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
				determine appropriate further survey requirements and / or mitigation. Mitigation by avoidance to be preferential, e.g. retention of all trees on Site to ensure potential bat roosts (if identified) are not removed. If required, appropriate license(s) to be applied for, e.g. to Natural England for European Protected Species Licenses. The CEMP/DEMP would contain appropriate measures to protect biodiversity on Site, e.g. appropriate exclusion zones around known sensitive areas (badger setts, bat roosts for example), sensitive Site lighting scheme, and method statements / toolbox talks identifying methods / actions to be followed to avoid potential harm to protected and / or notable species, e.g. breeding birds' precautionary	

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
				method statement.	
Land and Soil	Agricultural land	Construction / Decommissioning	Loss / degradation of Best and Most Versatile (BMV) agricultural land.	An ALC survey will be conducted to establish extent of any BMV agricultural land. All soils would be retained on Site and the majority of the Site will be in agricultural use (e.g. sheep grazing). The CEMP/DEMP would contain measures to protect topsoil / subsoils, e.g. measures to eliminate / reduce compaction from the plant. Restoration processes would be ensured so that the land is returned, as a minimum, to the same quality as the pre-development baseline.	Not significant
Water	Ordinary	Construction /	Pollutants / sediments	No works to be undertaken within 10m of the	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
	Watercourse / underlying groundwater	Decommissioning	entering Ordinary Watercourses or underlying groundwater	two on-site ditches. The CEMP/DEMP would contain measures to prevent pollutants / sediments from entering the watercourse or underlying groundwater, including those identified in CIRIA's report C532: Control of water pollution from construction sites, and GPP 5: Works and maintenance on and near water.	
Water	Flood Risk	Operation	Increased runoff rates and volumes	Flood Risk Assessment (FRA) to be undertaken in accordance with NPPF. The majority of the Site will remain permeable (panelled area) to flood water, therefore, unlikely to increase flood risk elsewhere. The FRA to identify appropriate sustainable drainage measures (SUDS) that will be	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
				incorporated into the Proposed Development's design to manage surface runoff.	
Air Quality	Local residents / Community	Construction / Decommissioning	Increase in nuisance (dust / particles) arising from construction / decommissioning traffic, both on Site and in proximity to the Site access routes.	The CEMP / Decommissioning EMP (DEMP) would be implemented during the construction / decommissioning phases. The CEMP / DEMP would include standard / best practice measures to reduce dust emissions on Site and in proximity to access routes, e.g. damping down of internal access tracks in dry conditions, wheel wash facilities to prevent tracking out from the Site. The CEMP/DEMP would include a Site Access Plan identifying permissible routes for construction / decommissioning traffic. The routes to utilise the Strategic Road Network	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
				and avoid passing through built up / residential areas as far as practicable.	
Cultural Heritage	Buried Archaeology	Construction	Disturbance / destruction of known / unknown archaeological remains.	A Desk Based Assessment (DBA) will determine presence of known / likelihood of unknown archaeological features. A Geophysical Archaeological Survey will be carried out and the results used to inform the site layout. Further archaeological investigation, e.g., trial trenching / strip, map, and record (if requirement identified following geophysical survey / consultation with Erewash Archaeological Officer).	Not significant
Cultural	Scheduled	Operation	Indirect effect on the setting of	The retention of all existing boundary mature hedgerows and trees, and planting /	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
Heritage	Monuments		Scheduled Monuments.	reinforcement where gaps in existing boundaries are present would screen the Proposed Development. Strategic screening (planting), would be implemented if required (based on the heritage setting assessment), to eliminate or reduce views into the Site from Listed Buildings.	
Cultural Heritage	Listed Buildings	Operation	Indirect effect on the setting of Church of All Saints and Vergers Farmhouse Grade I Listed Building and Boyah Grange Grade II Listed Building .	The retention of all existing boundary mature hedgerows and trees, and planting / reinforcement where gaps in existing boundaries are present would screen the Proposed Development. Strategic screening (planting), would be implemented if required (based on the heritage setting assessment), to eliminate or	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
				reduce views into the Site from Listed Buildings.	
Cultural Heritage	Dale Abbey Conservation Area	Operation	Indirect effect on the setting of Dale Abbey Conservation Area.	The retention of all existing boundary mature hedgerows and trees, and planting / reinforcement where gaps in existing boundaries are present would screen the Proposed Development. Strategic screening (planting), would be implemented if required (based on the heritage setting assessment), to estimate or reduce views into the Site from the Conservation Area.	Not significant
Landscape	Existing trees and hedgerows	Construction	Loss of and / or damage to the stability and future health of existing trees / hedgerows.	There would be a retention of all existing boundary mature hedgerows and trees. The CEMP would include relevant mitigation	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
				measures as identified in BS 3998: Tree Work. Recommendations; and BS 5837: Trees in relation to design, decommissioning and construction, e.g., appropriate Root Protection Areas and Construction Exclusion Zones.	
Landscape	Landscape Character Area	Operation	Adverse impact to landscape character (Plateau Estate Farmlands)	There would be a retention of all existing boundary mature hedgerows and trees, and planting / reinforcement where gaps in existing boundaries are present to screen the Proposed Development.	Not significant
Landscape	Green Belt	Operation	Adverse impacts towards the openness and undeveloped nature of the Green Belt	Substantial green buffers will be provided along the boundaries of the Site and retention of all existing boundary mature hedgerows and trees, and planting / reinforcement where gaps in existing boundaries are present to	Not significant

Factor	Receptors	Project Stage	Potential Significant Effect	Mitigation	Likelihood of Residual Significant Effects
				screen the Proposed Development.	
Visual	Local residents and users of PRoW (Footpath Dale Abbey-E3 45 and E3 46/2)	Operation	Reduction in visual amenity and public enjoyment of the landscape.	The PRoW would remain open during the lifetime of the Proposed Development. The retention of all existing boundary mature hedgerows and trees, and planting / reinforcement where gaps in existing boundaries are present to screen the Proposed Development.	Not significant

4. The Proposed Application

4.1.1 It is proposed that the planning application is accompanied by the following information, which is considered suitable to assess the Proposed Development.

a) Site location plan, site design layout and elevation drawings;

b) Construction Traffic Management Plan;

c) Landscape and Visual Appraisal, including photomontages;

d) Landscape and Ecology Management Plan;

e) Ecological Impact Assessment;

f) Biodiversity Net Gain Assessment;

g) Heritage Impact Assessment;

h) Noise Impact Assessment;

i) Arboriculture Report;

j) Flood Risk Assessment and Drainage Strategy;

k) Statement of Community Involvement; and

l) Planning, Design and Access Statement.

5. Summary and Conclusions

5.1.1 Environmental screening of the proposed development indicates that, with appropriate mitigation in place, environmental impacts would be generally limited in extent and based on the nature, scale and location of the proposed development it is considered that the proposed development is unlikely to result in significant environmental effects.

5.1.2 With consideration of the Proposed Development in the context of the criteria set out in Schedule 3 of the EIA Regulations, it is judged that these proposals **do not constitute EIA development** for the following reasons:

a) The Site is not located within or immediately adjacent to an environmental 'sensitive area' as defined by Schedule 3, 2 (1) of the EIA Regulations. There are no international, national or local nature conservation, landscape designations within the immediate vicinity of the Site.

b) The passive nature of the operational development, combined with the extensive ecological enhancement measures, allows for the Proposed Development to achieve a Biodiversity Net Gain.

c) The retention / reinforcement of existing vegetation and additional trees and hedgerows planting would limit adverse landscape and visual effects.

d) The site is located within EA Flood Zone 1. A site-specific FRA will demonstrate that the site is not adversely affected by flood risk from different sources, and how the flood risk from all sources be managed without increasing flood risk to the development itself or elsewhere.

e) The Dale Abbey Conservation Area, Hermitage Scheduled Monument, Dale Abbey Scheduled Monument, Church of All Saints and Vergers Farmhouse Grade 1 listed building identified to the north of the Site are not expected to have views into and across the Proposed Development due to the intervening topography and vegetation. Boyah Grange Grade II Listed Building identified to the east of site may have some interspersed views of the Proposed Development, however, with appropriate mitigation significant impacts to heritage setting of this listed building is not anticipated.

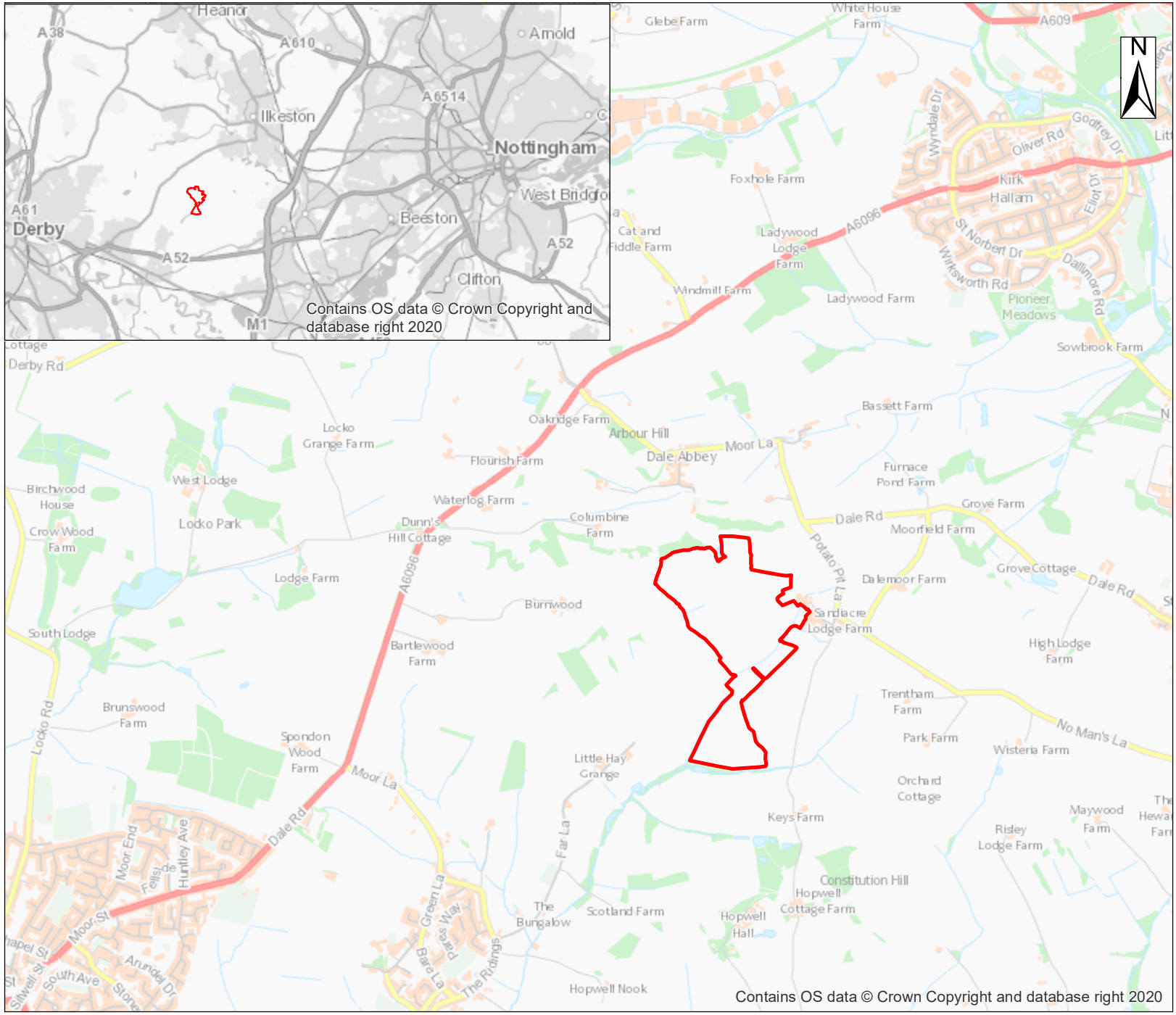
f) The Site comprises ALC Grade 3 and Grade 4 agricultural land. A full ALC Assessment will be undertaken to establish whether there is any Best and Most Versatile (BMV) agricultural land. All soils will be retained on-site, and it is anticipated that, through the removal of intensive arable agricultural practices, and the sole agricultural use of sheep grazing, soil

quality will improve over the Proposed Developments lifetime.

g) Once operational, the Proposed Development will have a positive impact on climate change through the provision of renewable energy.

Figures

Figure 1: Site Location Plan



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Legend

Site Boundary

0 0.5 1
Kilometers

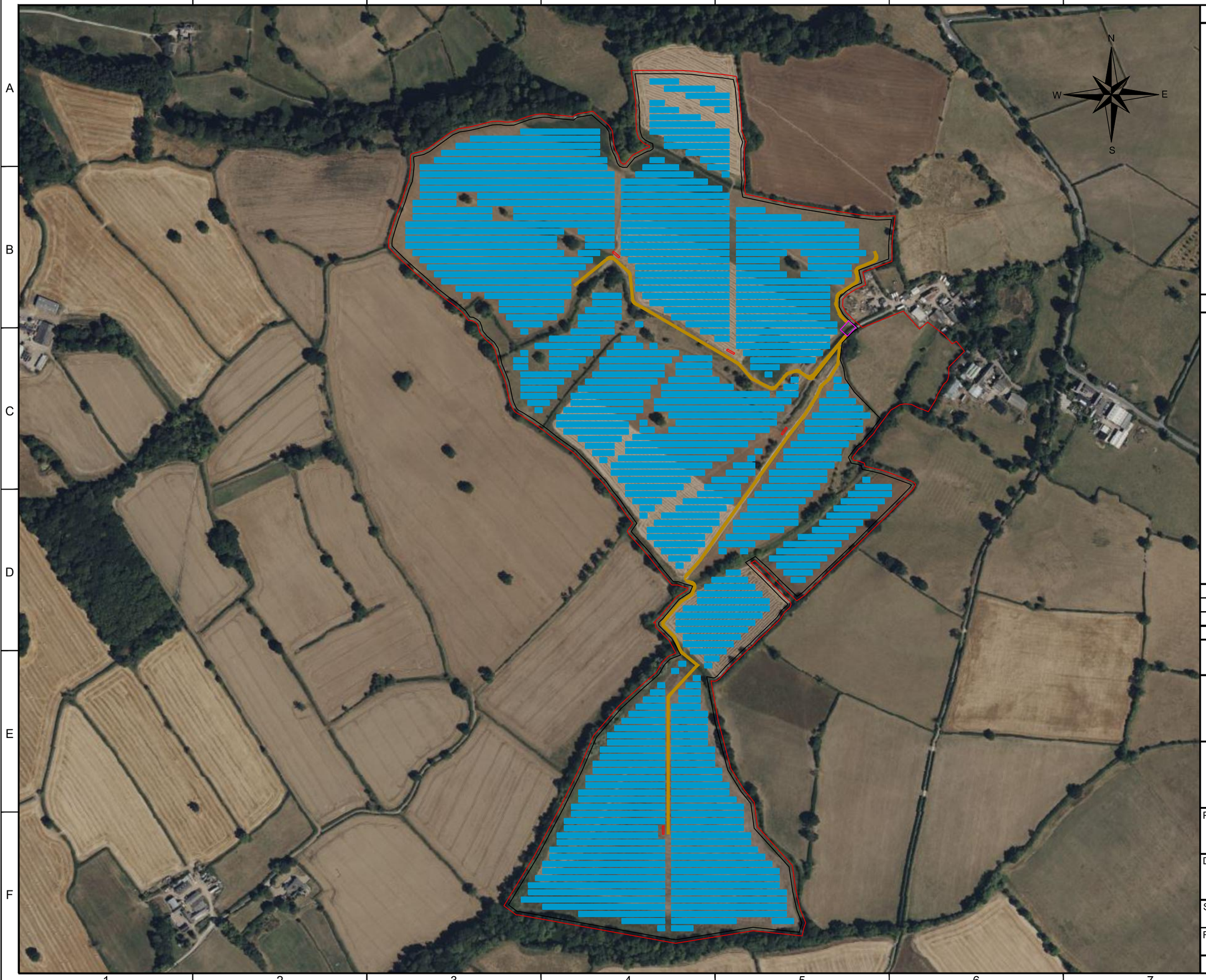
Abei Energy Ltd
Boyah Grange Solar Farm

Figure 1
Site Location

Brook Holt 3 Blackburn Road Sheffield S61 2DW
T: 0114 2669292 www.ecusltd.co.uk

Date: June 2024 | Scale: 1:30,000 @A3 | Drg.Ref: EIA/23117/1

Figure 2: Site Layout Plan



Notes

PV Plant: Boyah Grange
Location: England, United Kingdom
UTM convergence: 1.3186 °
Altitude: 94.93 m
Suitable area: 49.41 ha
Perimeter fence: 4.51 km

Rated Power: 35.2 MW
Peak Power: 48.03 MW
Ratio DC/AC: 1.36
Structure: Generic - 3V - 20mm separation
PV Module: JAM72D42-615/LB (78111 units)
Inverter: SG8800UD-MV (4 units)
Number of power stations: 4
Power stations: 8800 kVA 0.69/33 kV
Pitch distance: 10,5 m
Modules per string: 27
Fixed structure tilt: 20.0 °

Legend

- Red Line Boundary
- Substation location
- Power station
- Solar panels
- Internal access road
- Fence

REV	DESCRIPTION	BY	DATE
01	SECOND VERSION	MM	2024-06-03
00	FIRST VERSION	FS	2023-05-17

Coordinates: E:444238, N:338208
Post Code: DE7 4PH

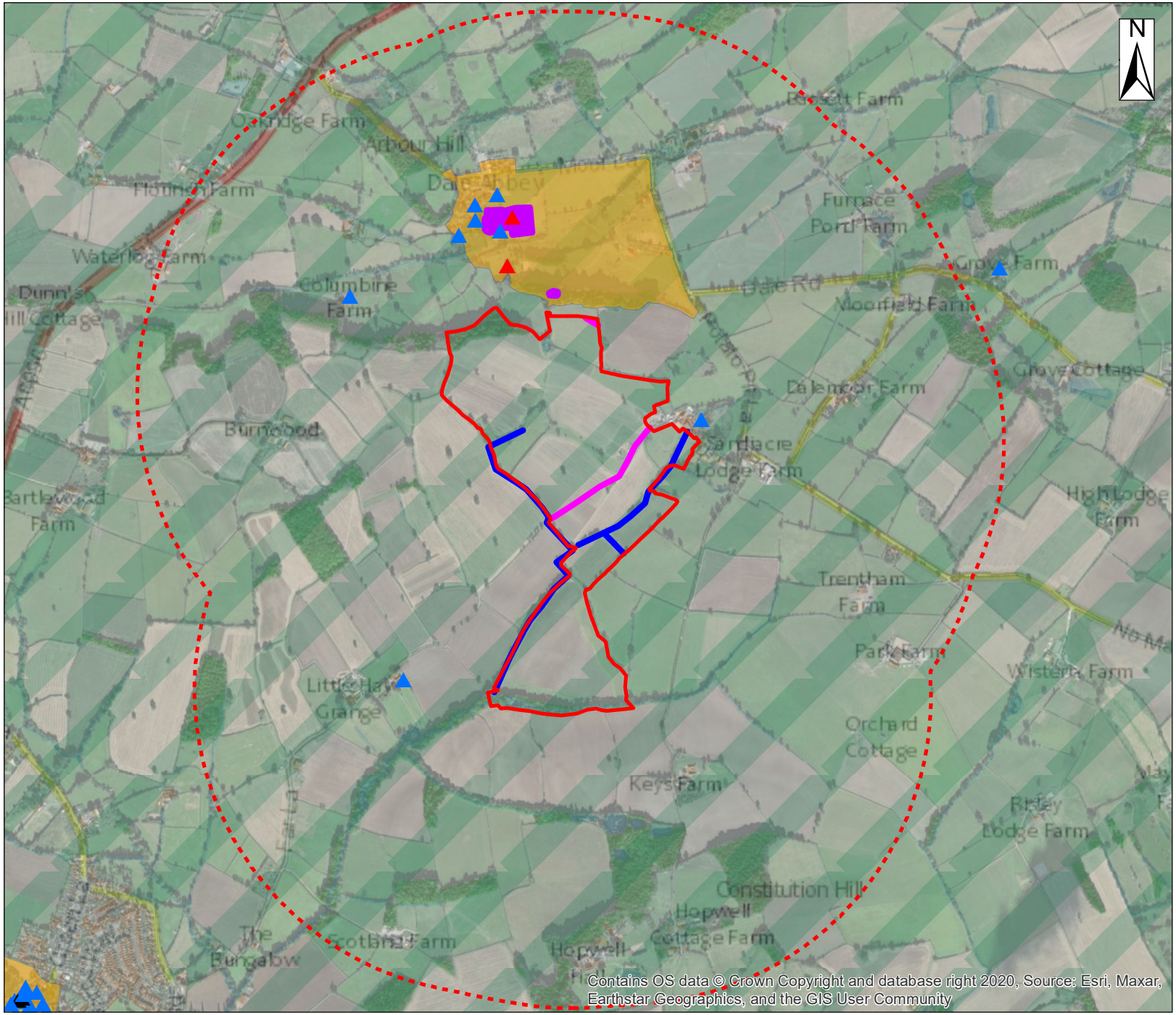
PROJECT: Boyah Grange

DRAWING: Layout Plan

SCALE:	SHEET: 1 / 1
REVISION: 01	DATE: 2024-06

DIN A3

Figure 3: Environmental Designations and Constraints Plan



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Legend

- Site Boundary
- 1km Study Area
- Onsite Public Rights of Way
- Onsite Ditch
- Green Belt
- Conservation Area
- Scheduled Monument

Listed Buildings

- Grade I
- Grade II
- Grade II*

0 0.5 1
Kilometers

Abei Energy Ltd
Boyah Grange Solar Farm

Figure 3
Environmental Designations and Constraints Plan

Brook Holt 3 Blackburn Road Sheffield S61 2DW
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