EIA SCREENING REPORT
SUBMITTED UNDER THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017

UPPER LEIGH SOLAR FARM

MAY 2021

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TABLE OF CONTENTS

APPENDICES

1 INTRODUCTION

1.1 Background

Arcus Consultancy Services Ltd ('Arcus'), on behalf of Lightrock Power ('the Applicant'), formally requests an EIA Screening Opinion from Staffordshire Moorlands District Council ('SMDC') and East Staffordshire Borough Council ('ESBC') for a proposed ground mounted solar photovoltaic ('PV') development ('the Development') on land adjacent to Far Teanleys Farm and the A50 and 1.25 km west of Lower Tean Village, Staffordshire (the Site). The Development would have an export capacity of up to 49.9 Megawatts (MW) and would be electrically connected into an overhead electricity transmission line which passes through the Site.

A plan showing the extent of the Site (outlined in red) is provided as Figure 1 in Appendix A. This also illustrates the local authority boundary which splits the Site. A series of site photographs is provided in Appendix B.

The Applicant is seeking pre-application consultation advice from both Councils in respect of the Development.

The EIA screening opinion request is made pursuant to Regulation 6 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, in order to determine whether or not a statutory environmental impact assessment (EIA) is required in accordance with those Regulations (known as 'the EIA Regulations').

This report sets out a brief description of the Development and then goes on to provide an assessment of the Development in terms of the EIA Regulations screening criteria and guidance set out in Planning Practice Guidance (PPG).

1.2 The Development and the EIA Regulations (2017)

The EIA Regulations define EIA development as 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.

Solar development is not listed in Schedule 1 of the EIA Regulations.

There is also no express threshold for solar developments to be considered as Schedule 2 development under the EIA Regulations. However, a development area threshold of 0.5 ha is applied to category 3 (a) industrial installations for the production of electricity.

The Development exceeds the Schedule 2 area threshold of 0.5 hectares and, as such, whether the Development is EIA development or not depends on an assessment against the screening selection criteria, as set out in Schedule 3 of the EIA Regulations, which comprise:

- Characteristics of the development;
- Location of the development; and
- Characteristics of the potential impact.

PPG paragraph 018, states that EIA will only apply to a small proportion of projects and only those which are likely to have significant effects.

The key question is whether or not the Development would be likely to give rise to significant effects on the receiving environment, taking into account the selection criteria in Schedule 3. An assessment of the potential effects of the Development is presented in Section 2 of this report.

2 DEVELOPMENT CHARACTERISTICS AND LOCATION

2.1 Site Location and Surroundings

The 'red line boundary' shown in Figure 1 of Appendix A illustrates the extent of the Site, occupying an area of approximately 81 ha. This is the maximum area being considered for the Development, however, the overall area required for the Development is likely to be approximately 70 ha and as such there is flexibility in the final design which will be informed by ongoing environmental assessments including a landscape and visual appraisal, heritage assessment (including geophysical survey), ecology surveys and a flood risk assessment. The additional area will be available for mitigation and enhancement opportunities. The general approach to design and minimising environmental effects is to avoid impacts in the first instance and where that is not possible then mitigation and or enhancement may be required.

The aspect and topography of the land within the Site is gently sloping north to south and is therefore well suited for a solar PV array. The topography of the Site ranges from approx. 186 m Above Ordnance Datum (AOD) in the north to 138 m AOD in the south.

The site comprises greenfield/agricultural land located approximately 1.25 km west of Lower Tean Village, 670 m from the village of Upper Leigh and 1.2 km from the village of Lower Leigh. The A50 borders the Site to the north east with Leigh Lane 380 m to the south east.

The Site will be accessed using one of two options currently being considered (see Figure 1, Appendix A) notably access off Leigh Lane to the south east boundary of the Site (Option 1) or Hen Lane towards the south west corner of the Site (Option 2). Hen Lane will require upgrade works to ensure a suitable access is provided. The choice of access will be determined through consultation with SMDC and ESBC to establish the most appropriate access option.

The Site benefits from some hedgerow and trees along parts of its boundaries particularly on the east and west side of the Site which provide screening, and which will be retained and enhanced with the Development. The Site is bisected by the local authority boundary which runs in a south west - north east direction with land within SMDC to the north and ESBC to the south.

In the wider area, there are various isolated farms. Distances quoted are to the closest proposed panels:

- Far Teanleys Farm, within the site boundary (an involved property);
- Shortwoods 35 m north and south;
- Blythe House approximately 125 m north west;
- Leigh Lane Farm 200 m south east; and
- Blythe Gate Farm approximately 385 m south and Dairy House Farm approximately 600 m west of the closest proposed panels, beyond the railway line and the River Blithe.

Newton Solar, an operational solar farm, is located approximately 760 m north west of the Site boundary.

The Development would sit within the gently rolling landform, broken up by existing lines which comprise a mix of scrub, overgrown hedgerows and pre-existing tree belts.

2.2 The Development

2.2.1 Summary Description and Land take Requirements

The Development would be a ground mounted solar PV farm with associated infrastructure including housing for inverters, transformers, battery storage containers and electrical

equipment, 23m (h) electrical connection mast/ tower as well as fencing, security cameras, cabling and access tracks. The Development would have an export capacity of up to 49.9 megawatts (MW). The Development would be temporary with an operational period of 40 years.

Given the nature of the installation, ground excavation is not required for panel installation. Strings or rows of solar panels are mounted on metal frames, likely to be screwed or piled to a depth of between 1-2 m below the ground depending on ground conditions. In the event that archaeological sensitivities are identified, the use of concrete footings could be implemented in these areas to avoid impacts on buried archaeology as they have limited below ground presence, typically less than ploughing depth. There are gaps between the rows of panels and around the perimeter of the panels up to existing field boundaries, and therefore the area of land directly impacted by the Development is vastly smaller than the site area. Areas of new hardstanding would be limited to the substation and inverter kiosk foundations, DNO and client substations and battery storage containers. As such, whilst the Development would occupy a total land area of approximately 70 ha, the area of infrastructure on the ground associated with the Development would be approximately 33%, equating to an actual land take area of approximately 23.1 ha.

2.2.2 Size and Appearance

The Development would consist of rows of solar panels known as strings. The panels are composed of photovoltaic cells and are designed to maximise the absorbency of the sun's rays and minimise solar glare. As a consequence, they are dark in hue and recessive in the landscape. Each string of panels would be mounted on a rack comprising poles, and between each string, there would be gaps to avoid inter-panel shading. The gaps would be between 2 m and 6 m depending on the topography and aspect, with less space required on steeper south facing slopes. The panels would be tilted at typically 10 to 25 degrees from the horizontal and would be orientated to face south towards the sun. The panels would be mounted at around 0.8 m from the ground at the lowest point rising to approximately 2.8 m at the highest point, although the maximum height could be up to 3 m.

The scale and nature of the associated infrastructure is as follows:

- Strings or rows of solar panels (each panel approximately 1 m x 2 m) mounted on metal frames, likely to be screwed or driven into the ground to a depth of 1-2 m, depending on ground conditions;
- Lower edge of panel typically 0.8 m from ground;
- Highest point of panel 3 m in height from the ground;
- Inverters and transformers housed in GRP enclosures or containers, typically measuring 7 m x 2.5 m x 3 m;
- Substation compound (30 x 50 m), including DNO and Client substation kiosks typically 12 m x 3 m x 3 m(h) and battery storage infrastructure which is likely to include 4 No. Battery Storage Containers, typically 12 m x 3 m x 3 m(h);
- 2.4 m high perimeter fence/ deer fence;
- CCTV cameras located on 3 m high poles;
- Connection Mast / tower approximately 23 m in height;
- Access tracks – 3.5 m wide (kept to a minimum across the site).

2.2.3 Site / Development Access

Access to the Development would utilise the A50, A521 A522 (Uttoxeter Road), Leigh Lane and then access Options 1 or 2 (see Figure 1, Appendix A) to access the site. Work would be required to upgrade the existing track at the end of Hen Lane to ensure suitability for access. Access at both options would by via an existing field access point and then extended as needed to reach areas of panels further within the Site. Existing field access points will

be used where possible to minimise the requirement for new field entrances. Where new access tracks are required, they will be constructed approximately 3.5 m wide.

2.2.4 Cumulative Developments

A review of the Councils' online planning application database and aerial mapping identified the one operational solar farm, Lower Newton Farm Solar, located 760 m north of the Site. Newton Solar Farm will be considered as part of the baseline and will be assessed accordingly in technical assessments submitted with any future planning application for the Development.

A review of planning applications in the vicinity of the Development has been conducted. There are no extant planning applications or permissions with potential for significant combined impacts with the Development.

A planning history search of planning applications relating to the Site was undertaken using SMDC and ESBC planning application search facilities. No relevant past planning applications were recorded on the Site.

There are no extant planning applications or permissions with potential for significant combined impacts with the Development.

3 ENVIRONMENTAL IMPACT ASSESSMENT SCREENING METHODOLOGY

3.1 Introduction

As stated in Section 1.1, screening of the Development requires an assessment as to whether it is "likely to have significant effects on the environment by virtue of factors such as its nature, size or location" (Schedule 2). The potential for significant effects depends on the sensitivity of the receiving environment to the type of changes proposed, combined with the magnitude and scale of changes proposed, including in combination with other development.

Information on the methodology for EIA screening is presented in this section. The characteristics of the Site and Development are described in Section 2 above, and other potentially relevant developments in Section 2.2.4. Section 0 then describes the existing environment by EIA topic, followed in each EIA topic section by an appraisal of the potential for impacts, consideration of the magnitude of those impacts, and whether or not there is the potential for significant effects.

3.2 Establishing the Baseline

In order to evaluate the likely environmental effects, information relating to the existing environmental conditions (known as the 'baseline' conditions) has been collected through desktop research and site visits. Information has been gathered using a variety of sources, including:

- Staffordshire Moorlands & East Staffordshire District Council websites (e.g. online planning application searches, Local Plan proposals map);
- ArcGIS online and Magic.gov.uk, with data provided by:
  - Natural England;
  - Historic England;
  - the Environment Agency;
  - Sustrans;
  - Ordnance Survey open data;
  - National Trust; and
- Staffordshire Ecological Records Information Centre (ERIC); and
- Historic Environment Records.

The baseline is used to help describe the Site location, to identify potentially sensitive receptors on and near the Site, and to help characterise the potential impacts.

3.3 Identifying the Potential for Significant Effects

The changes to the Site and its surrounding environment which may take place during the construction, operation and decommissioning of the Development have been identified and considered for potential direct or indirect changes to environmental features within or outside of the Site. Changes to the environment are known as 'impacts', and anything which benefits or creates detriment to an environmental feature is known as an 'effect' – reference is made to either 'beneficial' or 'adverse' effects. Any impacts are appraised using professional judgement by experienced EIA practitioners to determine the potential for significant effects on receptors. The following potential effects are considered:

- Direct and indirect effects[1];
- Primary and secondary effects[2];
- Short, medium and long-term effects; and
- Permanent and temporary effects.

Establishing the baseline, including predicted future conditions without the Development, is the key basis for predicting the potential for impacts and effects at this screening stage, combined with the depth and breadth of experience of the author[3] in conducting EIA and environmental assessment of a range of development types, and reviews of other similar developments. The author has consulted inhouse specialists where appropriate, including ecologists, landscape architects and archaeologists / heritage specialists.

In arriving at conclusions about the potential for significant effects, the author has, in line with EIA assessment techniques, considered (and appropriately referenced) sensitivity of the receptors and the predicted magnitude of change from the baseline conditions (either beneficial or adverse). This is done because the overall significance of potential likely environmental effects (when assessed in EIA) is determined by the interaction of the above two factors. However, EIA Screening is not a full, in-depth assessment (which would be done if EIA is required) and relies mostly on understanding of the baseline and professional judgement, including previous experience of similar developments.

3.4 Mitigation

Where possible, mitigation measures have been "embedded into" the overall design strategy rather than "added on" to the proposals. An example of this is screening to reduce the magnitude of visual effects, and habitat creation where consideration will be given to tree and woodland planting and wildflower meadow on sections of the site following completion of the ecological and landscape assessment. By being flexible with the design, the project has and will continue to respond to the findings of consultation and environmental assessment work through an iterative process.

4 ENVIRONMENTAL BASELINE AND SCREENING ASSESSMENT

4.1 Use of Natural Resources

The nature of the Development is to utilise sunlight to generate electricity. Sunlight is a renewable resource and the Development will contribute to a reduction in the use of non-renewable natural resources for the same purpose. Furthermore, there would be extremely

[1] broadly those which occur in the same time and place as the action (direct), vs. those which occur some distance away or time after the action (indirect)

[2] primary being caused by the action itself, e.g. removing a habitat as part of clearance of a site for construction, and secondary being caused by subsequent consequence of the action, e.g. a substance / pollutant entering the environment and then being taken up by people, crops / livestock, or wildlife generally through consumption, absorption or inhalation

[3] Andrew Mott, Associate Director, IEMA registered EIA practitioner.

limited use of other natural resources in construction and during operation with the site being restored when the Development is decommissioned.

Natural resources would therefore not be affected in terms of their relative abundance, quality and regenerative capacity and there is **no potential for significant effects on non-renewable natural resources**.

(See also 'Hydrology' and 'Land-use & Soils' below.)

4.2 Production of Waste

The production of waste during construction would be extremely limited, as the large majority of components would be brought to site ready-made/pre-assembled. During operation, the Development will generate very little waste. Following the expiry of the consent, the solar panels and associated infrastructure would be dismantled and removed from the Site, leaving no residual effects. In addition, the solar panels themselves can be recycled at the end of their operational life. Decommissioning would be in accordance with technical guidance and best practice, with the methodology to be agreed with the Councils at that time. There is **no potential for significant effects on waste generation and management**.

4.3 Pollution and Nuisances: Air Quality and Water

The Development, when operating, would have no emissions to air or water, cause no deposition to land, emit very little noise and potentially only have intruder-activated security lighting. Construction of the Development is a simple process involving only small quantities of cement and the ordinary use of vehicle fuels/oils, with none stored on site. The potential for pollution is therefore very low.

During construction and decommissioning, there would be emissions to air from vehicles and plant, but these will not be sufficient to lead to air quality effects, such as the breach of National Air Quality Objectives, at the nearest receptors. (Note: the site is not within or in relevant proximity to an air quality management area - AQMA.)

In the wider context, the Development will reduce the need for electricity from other sources, including fossil fuels and nuclear electricity generation, and thus will reduce the potential for pollution relative to the baseline.

The Site has the River Blithe along its southwest boundary and other ditches and drains over the Site. Through design all infrastructure and therefore construction activity will be set back appropriately from such features and all works would be undertaken in accordance with best construction practice and pollution prevention and control measures.

Consequently, there are no air quality of hydrology receptors considered to be sensitive to the type of development proposed and there is **no potential for significant effects on air quality or water quality**.

4.4 Risk of Accidents and to Human Health

Very few potentially polluting substances will be handled or stored on site, and hence the potential for accidents caused by, or involving, the release of substances is very low.

Solar panels do not move or otherwise cause directly or indirectly an appreciable risk of accidents during operation. Further detail is included here on battery safety and it is considered that, following the measures set out, the fire risk potential is limited. The supplier of the energy storage technology will hold the relevant test certificates and meet the relevant electrical safety regulations. The energy storage system would be constructed with the appropriate materials and designed to minimise the risk of fire and thermal runaway. Every module would be fitted with state-of-the-art fire suppression and containment systems. Furthermore, the modules would be installed with air conditioning in

order to maintain a constant and safe operating temperature, and the entire system will be subject to inspection, testing and maintenance for safe operation.

During construction, normal construction site and transportation risks would be managed through normal good practice, and there would be minimal risk from the technologies being employed for the Development. As per the previous section, the Development will not give rise to any emissions to air or water. As such, there is **no potential for risks of accidents and no potential for significant effects on human health**.

4.5 Landscape

There are no statutory or non-statutory landscape designations within 5 km of the Site and no such designations which would be significantly impacted by the Development beyond this distance.

The Site falls within National Character Area Needwood & South Derbyshire Claylands (NCA 68) which characterises the area as a predominately rolling plateau that slopes from the southern edge of the Peak District to the valley of the River Trent in the south west. In the south of the NCA are frequent plantations and ancient woodlands of the former Forest of Needwood. More widely, the pastoral landscape is extensively hedged and dominated by mixed farming and dispersed villages and other settlements. Hedgerow trees also contribute to the wooded character of this NCA.

The north western section of the Site is locally defined in the Staffordshire Moorlands Landscape & Settlement Character Assessment, published in 2008. Within this assessment the Site falls within the Settled Plateau Farmland Slopes Landscape Type, which is classified as rolling plateaux with dispersed scattered hamlets and farmsteads. The assessment describes the landscape type as having the following key features:

- Gentle undulating landform with flat open valleys;
- Small scale ancient hedgerow field pattern;
- Low lying wet fields with ponds and well vegetated streams;
- Views are limited by hedgerow pattern and dense tree cover;
- Urban fringe farming and horse culture;
- Strong linear features of the A50 dual carriageway corridor and the mainline railway dominate the landscape type.

The large-scale feature of the A50 dual carriageway, which runs to the north eastern boundary of the site, has in parts cut into the small-scale landscape limiting views out and creating a sense of enclosure.

The south eastern half of the Site is in the Settled Plateau Farmland Slopes Regional Character Area (RCA) as defined in the Staffordshire County Council Landscape Character Assessment, published in 2001. The assessment describes the area as being characterised by *irregular, hedged fields and numerous hedgerow trees on a sloping landform, often dissected by small steep sided wooded stream valleys draining the plateau tops. Where the land-cover pattern remains intact, the hedgerows and hedgerow trees to a large extent control and limit views across the landscape, with the rolling landform and steeper slopes often allowing longer views and showing up the pattern of fields and small woodlands. Hedgerow tree cover is predominantly oak, with some ash, whilst stream side willow and alder have a strong localised influence along the valleys. Large areas of ancient woodland dominate the upper scarp slopes, lending a very individual character to those areas. The predominantly low intensity pastoral farming, together with a network of narrow, often sunken lanes and clustered farmsteads, hamlets and villages of traditional Staffordshire red brick lend the landscape a peaceful, rural feel.*[4]

[4] Planning for Landscape Change, Staffordshire County Council, Development Services Department, 2000

The landscape surrounding the Site consists of agricultural land, trees, hedgerows, vegetation and small areas of woodland which, alongside the gentle topography, affords screening to the Site. This vegetation and trees on Site will be retained as part of the Development and would help to limit views from properties and settlements in the vicinity of the Site. The Site is located between the A50 motorway, which borders the Site to the north east, and the Crewe to Derby mainline railway to the west. Beyond the A50, to the north east, is the settlement of Lower Tean approximately 1.25 km from the Site. The small hamlet of Upper Leigh and its periphery properties is approximately 670 m south east of the Site at the closest point with Lower Leigh slight further away at 1.4 km. To the west of the Site, beyond the River Blithe and the Railway line are several isolated farmsteads including Blythe Gate Farm and Dairy House Farm approximately 385 m and 600 m respectively.

Given the location of the Site, the nature of the Development, the topography within and around the Site, and due to the fact that the Site is largely already screened with hedgerow and treeline shelterbelt (which can be readily extended alongside the Development), it is considered that any effects would be localised and there is **no potential for significant effects on the landscape, including cumulatively (see Section 2.3.4)**. Furthermore, there is the potential to incorporate grassland mix and further landscape enhancements as part of the Development.

4.6 Visual Receptors

There are a number of properties, groups of properties, settlements or PROWs located within the vicinity of the Site. These are detailed below:

- Far Teanleys Farm within the Site boundary (an involved property);
- Shortwoods – approximately 35 m north;
- Blythe House – 125 m to the north west;
- Leigh Lane Farm – 200 m to the south east;
- Blythe Gate Farm – 385 m south;
- Dairy House Farm – 600 m west;
- Hamlet of Upper Leigh – Approximately 670 m south east;
- Village of Lower Leigh – Approximately 1.4 km to the
- Middleton Green – 1.6 km to the south west may have longer views over the Site;
- Several PRoW that transect the Site through the central, north east and north west areas of the Site;
- Public Bridleway which runs through the western part of the Site; and
- The principal roads in the study area are the A50 Motorway which borders the Site to the north east boundary and Leigh Lane which is located 95 m to the south east at the closest point. Hen Lane is also located to the south of the Site and is being considered as a potential access point.

There are no airfields in the relevant vicinity of the Site.

Visibility in its own right is not necessarily detrimental, particularly given the inanimate and low-lying nature of the Development and the nature of the receiving environment being located on gently rolling agricultural land in a rural setting with dominant features including the A50 and the mainline railway. The landscape is well vegetated with hedges and areas of established woodland.

Visual effects on residential properties are likely to be limited given the nature of the solar development which would be generally at a low height across the Site. Existing hedgerows and trees would help to screen the Development and appropriate planting will also be proposed as part of a planning application to further reduce visual effects and deliver biodiversity enhancements. Appropriate consideration will be given to ensure that no significant amenity effects occur as a result of the Development. The Development will be designed to ensure any effects on residential properties are minimised.

The topography of the Site is gently sloping ranging from 186 m Above Ordnance Datum (AOD) in the north to 138 m AOD in the south and the Site benefits from existing established vegetation and hedgerow screening which would limit views from nearby properties and settlements. The Development is relatively low-lying and does not give rise to significant vertical elements in the landscape and is therefore highly unlikely to be discernible in views from the nearest settlements of Upper Leigh and Lower Tean. In the wider landscape, there may be some longer views from settlements including Middleton Green although they will be at distances of over 1.5 km. The existing trees and taller hedges on the Site would break up views across the Development and beyond to the Lower Newton Farm solar development and this beneficial effect will be strengthened by supplementing existing field boundaries.

Whilst there are a number of isolated properties in the immediate vicinity of the Site, as identified above, many benefit from existing screening/ boundary vegetation, which would limit visual impact of the Development, while others have intervening agricultural buildings, meaning views across to the Development would be limited. Furthermore, as part of the Landscape and Visual Appraisal that would be carried out to accompany any future planning application, any additional landscape planting that is required to mitigate visual impact on these properties would be detailed.

There are several Public Rights of Way (PRoW) that traverse the Site centrally, to the north east and north west and there are several other PRoW in the wider area around the Site. Any effects on right of way users both on Site and in the wider area will be assessed as part of the Landscape and Visual Appraisal (LVA) that would be submitted as part of any planning application for the Development. These receptors will also influence site design and such measures would include appropriate separation of the solar panels from the PRoW and appropriate landscaping and planting. It is noted that there is potential for direct impact on the PRoW during the construction phase of the Development although once operational the PRoW would remain open. It is likely that a temporary PRoW closure would be sought during the construction period in order to minimise safety risks.

Visibility of the Site from roads would be limited to a short section of the A50 to the east, and Leigh Lane to the south east of the Site. These would be transient views experienced by motorists travelling quickly, especially those on the A50. Views from the smaller roads around the Site would be limited by vegetation, with motorists receiving transient, glimpsed views albeit at slower speeds.

The LVA will inform the extent to which vegetative screening is necessary to assimilate the Development into the landscape and will ensure that the Development is sited appropriately to the amenity of residents in the surrounding area. Details of proposed additional landscaping will be shown on a Landscape Mitigation Plan which will be submitted along with any future planning application.

Solar panels can result in glint and glare effects from reflected sunlight, affecting nearby receptors such as car drivers or residential properties. However, firstly the impact is generally only of concern at dawn and dusk and is limited by the position of the panels relative to the sun, and in turn the position of potential receptors relative to the panels and the sun. Secondly, the panels are designed to absorb maximum daylight to convert it to electricity and therefore have low levels of reflectivity when compared to surfaces such as window glass, water or snow. A Glint and Glare Assessment would be submitted with any planning application, and any required mitigation (in the form of landscape planting) would be provided to ensure there were no significant effects on residential receptors or road or railway users.

It is therefore considered that there would be **no significant visual impacts from the Development**, though for any impacts which are not significant, e.g. for users of the A50 and the local road network, and residents in surrounding settlements and isolated

properties in the vicinity of the Site, visual screening will be taken into consideration within the Development's landscaping proposals.

4.7 Cultural Heritage and Archaeology Receptors

4.7.1 Designated Heritage Features

There are no designated archaeological or cultural heritage assets within the Site. There are no World Heritage Sites, Registered Parks and Gardens or Registered Historic Battlefields within a 5 km radius of the Site and the Site does not lie within a conservation area. There are four nationally designated sites within the 1 km of the Site notably:

- Scheduled Monument 1011883 Blithewood Moated Site approx. 1 km to the south west;
- Grade II NHLE 1190235 Moor House Farmhouse approximately 665 m south east;
- Grade II NHLE 1374482 Moor Farmhouse approximately 890 m south east; and,
- Grade II NHLE 1374671 Blythe House – on the periphery of the north western site boundary.

Whist no direct impacts are expected on these heritage assets, indirect effects will be given due consideration during the detailed planning process and a heritage assessment will be prepared to assess any potential impacts on the setting and character of heritage assets on these and the wider area. The heritage assessment will also consider the potential for undiscovered archaeological remains (see Section 4.7.2). Woodland blocks, tree lines and buildings would obstruct views between the Development and any of the Listed Buildings or the Scheduled Monument. As a result, no heritage features are considered sensitive to the changes of the type proposed, and there is **no potential for significant effects**.

4.7.2 Non-designated Heritage / Archaeology

Whilst the Site has not previously been developed, it has been used for agricultural purposes, including ploughing, and so any remains close to the surface are likely to have already been disturbed. A programme of geophysical survey has been completed for much of the Site. No anomalies suggestive of significant archaeological activity have been identified. Postmedieval agricultural activity is indicated by anomalies related to multiple former field boundaries, modern ploughing, a trackway, and land drainage. The survey identified several possible thermoremanent anomalies mostly concentrated in the north of the survey area; however, these may have a modern origin and are therefore classified as 'Undetermined'. Natural variations relating to changes in soils and superficial geology have also been identified, most prominently along the route of the River Blithe. Sources of modern interference are limited to the perimeters of the survey areas, three pylons within the survey area, as well as debris material at an infilled pond. These results will be used to inform the archaeological potential of the Site and design implications and mitigation requirements.

Any potential impact on undiscovered archaeological resources resulting from the Development could be adequately mitigated through appropriate archaeological evaluation, the requirement for which would be agreed with the County Archaeologists and implemented via a Written Scheme of Investigation (WSI). Furthermore, should archaeological sensitivities be identified the use of concrete footings could be implemented in these areas to avoid impacts on buried archaeology as they have limited below ground presence, typically less than ploughing depth.

Following the evaluation and any required mitigation, there is **no potential for significant effects**.

4.8 Community and Recreation

In addition to the settlements and public rights of way discussed in Section 4.6 above, this section considers other recreational receptors.

There are no Country Parks or other large-scale recreational facilities in the immediate vicinity of the Site which could be significantly affected by the Development.

The only potential for effects on recreational features is visual impact, affecting amenity value. Intervening distance and the nature of the Development (low lying), in conjunction with intervening woodland blocks, tree lines and landform which all act to obstruct views between the Development and identified recreational receptors, would mean that these effects, even if unmitigated, would not be significant and there is **no potential for significant effects**.

4.9 Ecological Receptors

There are no European/International statutory designated ecological sites or UK Statutory designated ecological sites located within 5 km of the Site. The nearest SSSI, Dimmingsdale and The Ranger, is located approximately 6.7 km north east of the site. Within the south of Site, on the southwest of the River Blithe, there is a priority habitat for coastal and flood grazing marsh.

Due to the lack of meaningful ecological connectivity between the habitats within the Site to any of the designated sites, and the low and spatially restricted impacts of the Development, it is considered that the designated sites will not be subject to any direct or indirect impacts during construction and operation. The priority habitat area will not be developed but may be considered as an area for ecological and biodiversity enhancements.

An Extended Phase 1 Habitat Survey was completed in February 2021 which covered the Site and adjoining areas, where access permitted. The majority of the Site comprised of fields of improved grassland used for pastoral farming with a smaller proportion of arable cultivation (three fields towards the south of the Site). Scattered trees and hedgerows with trees (Photographs, Appendix B) formed field boundaries. There are a number of ponds and other areas of standing water across the site, as well as drains and ditches.

The survey identified the following:

- Bats - No trees with potential to support roosting bats will be impacted by the Development, therefore no further surveys or mitigation are required. The long-term, operational effects of the Development on bats are likely to be positive because habitat quality and availability will be increased, and the panels may create a sheltered area in which bats can forage;
- Reptiles - No reptiles or evidence of reptiles was recorded, although habitats with the potential to support foraging and sheltering reptiles were present on Site. It is considered that adverse impacts to reptiles will be minimal. No further reptile surveys are required. The long-term, operational effects of the Development on reptiles are likely to be positive because terrestrial habitat quality will be increased, providing additional habitat connectivity to off-site areas;
- Badger – No evidence of badger were found although habitats with the potential to support badger were present on Site. Precautionary mitigation measures to safeguard badgers will be proposed and updated field sign walk-over is recommended in advance of construction in case of any change in presence due to their highly mobile nature;
- Great Crested Newts (GCN) – there are numerous ponds on and within 250 m of the Site which are considered suitable for GCN, following a Habitat Suitability Index (HSI) Assessment. As such, a programme of further surveys are currently being undertaken. These surveys are designed to confirm the presence or absence of GCN, and if present, the populations. This information will be used to inform the final design of the Development and any mitigation measures that may be required, acknowledging that

construction works would require a European Protected Species license from Natural England;

- Otter and Water Vole – no evidence of otter (holts, spraints, prints) or water vole (no burrows, prints, latrines or feeding stations and the River Blithe was observed to be fast flowing at the time of the survey) were identified during the Phase 1 survey.

Overall, the Development will actively enhance habitat at the Site. Consequently, the Development is likely to have a neutral or net positive effect on habitat resources. All Ecological surveys will be reported, alongside any required mitigation measures and or enhancement measures, as part of any future planning application. Off-site habitats and designation will not be affected by changes on the Site of the type proposed and, following appropriate design considerations and mitigation, there is **no potential for adverse significant effects, and potential for beneficial effects**.

4.10 Hydrology Receptors

The majority of the Site is located in Flood Risk Zone 1[5], with an area to the south west boundary located in Flood Zone 2 and 3, associated with the River Blithe. These definitions are provided in the National Planning Policy Framework (NPPF) where Flood Risk Zone 1 is categorised as having a less than 1 in 1,000 (0.1%) annual probability of flooding, the lowest risk of flooding potential, Flood Risk Zone 2 is categorised as having between a 1 in 100 and 1 in 1,000 annual probability of fluvial flooding or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding and Flood Risk Zone 3a is categorised as having a 1 in 100 or greater annual probability of fluvial flooding or a 1 in 200 or greater annual probability of sea flooding.

The EA Risk of Flooding from Surface Water Map indicates that the Development is generally at low risk of surface water flooding with small areas of the site, mainly in the vicinity of the River Blithe and the onsite ponds, where surface water flooding is considered medium to high risk with estimated depths to be between 300 – 900 mm.

A Flood Risk Assessment will be submitted as part of any future planning application which will confirm the predicted flood levels, plus an appropriate allowance for climate change and will inform the final design of the Development. The potential to impact offsite receptors and surface water run-off will also be considered within the assessment.

The electrically sensitive infrastructure, such as the inverters, transformer, battery container, switchgear and substation, within the proposed Development will be designed to be flood resistant to a 1:200-year flood defence breach event plus an allowance for climate change. Design measures will elevate the critical infrastructure above the flood depths plus a 300 mm freeboard allowance to ensure the electrically sensitive infrastructure (such as inverters and substations) is at low risk from flooding. Further to this, the land take of the Development is minimal, as the mounting structures for the solar panels themselves are either anchored at surface level or driven or screwed into the ground on poles and most aspects of the Development, such as the PV arrays, can be designed to be flood resilient.

The Development would not give rise to adverse effects in respect of flood risk, and there is **no potential for significant**.

4.11 Noise and Vibration

The nearest receptors of potential noise effects are the residential properties located to the boundaries of the Site, as identified under the visual receptors section above, the closest of which is Blythe House to the north west and Shortwoods to the east boundary. Far Teanleys Farm is located within the Site and is an involved property. The nearest

[5] Gov.uk (2020). Flood map for planning. Available at: https://flood-map-for-planning.service.gov.uk/confirm-location?easting=430956&northing=517074 [Accessed on 17/03/2021]

settlement is Upper Leigh where the nearest receptors are approximately 670 m south east of the Site boundary.

The baseline environment includes several existing noise sources. Properties in the immediate vicinity of the Site are within 550 m of the A50 and the Crewe – Derby main line railway which will contribute to elevating background noise levels. The Hamlet of Upper Leigh is within 1 km for the A50 and 570 m of the railway line.

Solar farm construction takes place quickly, as minimal excavations are required. The potential adverse effects of noise and vibration during construction are therefore limited to specific locations within the Site, and only for short periods, e.g., when deliveries are made and when piles for mounting structures are being installed. The temporary duration and extent of adverse effects is typically secured by limited working hours set out in appropriately worded planning conditions, or a construction environmental management plan, as would be used for a wide range of other non-EIA development types.

During the operational phase of the Development, low levels of noise can be generated by the electrical systems such as the transformers, inverters, substations and battery storage containers, but this is highly unlikely to be audible at the identified receptors given the separation distance. Consideration will be given in the design of the Development to ensure that these items are placed at locations as far away as possible from residential properties and noise sensitive receptors such as users of the PRoW across the Site. Additionally, solar panels only generate electricity during daylight hours, and therefore there is negligible noise generated in the evening, night and early morning, when ambient noise levels are typically at their lowest.

Consequently, there are no noise and vibration receptors considered to be sensitive to the type of development proposed and there is **no potential for significant effects**.

4.12 Traffic and Transport

Access to the Development would utilise the A50, A521, A522 (Uttoxeter Road), Leigh Lane and then access to the site would be via Option 1 or Option 2 shown on Figure 1, Appendix A. Option 1 would access the site using an existing access point off Leigh Lane. To use this access, the PRoW would require diversion. For Option 2, Hen Lane, work would be required to upgrade the existing track at the end of Hen Lane to ensure suitability for access. To the north end of Hen Lane, access would by via the existing field access point and then extended as needed to reach areas of panels further within the Site. The access point taken forward would be determined through consultation with SMDC and ESBC to establish the most appropriate access option.

Construction traffic will consist of heavy goods vehicles (HGVs), light good vehicles and cars and no abnormal loads movements are expected to be required. Movements associated with the construction phase are expected to contribute a minimal amount to the Annual Average Daily Traffic Flow (AADTF) of these roads. A Transport Statement will be submitted with the planning application detailing the traffic volumes and routes and any required mitigation. It is anticipated that traffic volumes during the decommissioning phase will be similar to that during the construction phase. As a result, the magnitude of change during the construction and decommissioning phase would be minimal.

During the operational phase of the Development, additional traffic would be limited to maintenance vehicles and the magnitude of change would be negligible.

Traffic volumes generated by the Development during construction, operation and decommissioning are not likely to be sufficient to lead to any long-term delay or other traffic-related effects. Consequently, there are no traffic and transport receptors considered to be sensitive to the type of development proposed and there is **no potential for significant effects**.

4.13 Land Use and Soil

A review of publicly available Agricultural Land Classification (ALC) mapping indicates that the Site is Grade 3. In order to confirm the sub class (i.e. 3a which is considered Best and Most Versatile (BMV) and 3b (not BMV)), a site-specific Agricultural Land Classification Survey has been carried out which confirms that the land onsite is wholly Grade 3b. The findings of the survey will be submitted alongside any future planning application.

The temporary nature of the Development (which would not lead to an irreversible loss of the land which would be reinstated after the Development is decommissioned) means that the land use at the Site is not considered to be sensitive to the type of development proposed and there is **no potential for significant effects**. Furthermore, there is the potential for agricultural land use to continue in conjunction with the Development once it is operational, in the form of sheep grazing amongst the solar panels.

5 CONCLUSIONS

Based on the experience of the author[6], overall, significant effects in EIA terms are not likely as a result of the Development and the Development does not warrant an EIA.

Schedule 3 of the EIA Regulations states that "the environmental sensitivity of geographical areas likely to be affected must be considered having regard to (a) the existing and approved land use; (b) the relative abundance, availability, quality and regenerative capacity of natural resources; and (c) the absorption capacity of the natural environment, paying particular attention to a number of areas including wetlands, coastal zones, mountains and forest areas, nature reserves and parks, areas classified or protected under legislation, areas in which the environmental quality standards have already been exceeded, densely populated areas or landscapes of historical, cultural or archaeological significance."

These have been considered in this EIA Screening assessment, and special consideration has been given to landscape, visual, heritage, ecological and hydrological resources. As discussed in the previous sections, the Development is relatively low-lying, does not give rise to significant vertical elements in the landscape, and would be implemented alongside areas of wildflower meadow habitat creation and most likely some woodland/ hedge planting to enhance visual screening and provide biodiversity gain. The landscape has the capacity to accommodate the Development due to the gently sloping nature of the landform and existing vegetation, including the existing hedgerows and trees, which would provide established screening.

Ecological surveys are being carried out and will be reported, alongside any required mitigation measures and or enhancement measures, as part of any future planning application. These surveys are designed to inform the baseline and the final design of the Development as well as any mitigation measures that may be required. There will be no impact on nationally or internationally designated ecological sites.

A Flood Risk Assessment will be submitted as part of the planning application which will confirm the predicted flood levels, plus an appropriate allowance for climate change and will inform the final design of the Development such that the critical infrastructure will be elevated above the flood depths plus a 300 mm freeboard allowance to ensure it is at low risk from flooding.

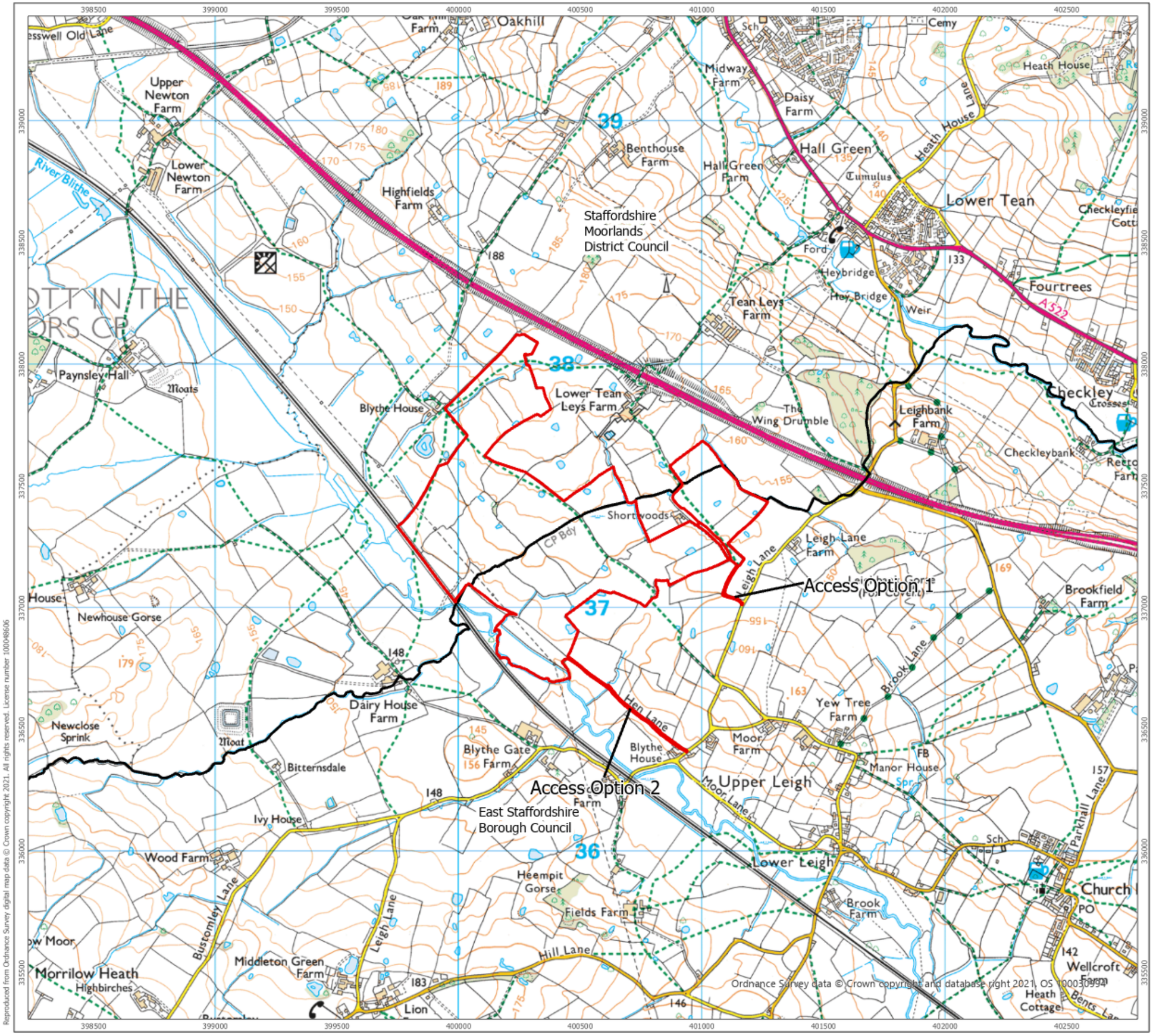
The solar farm would be compatible with sheep grazing during the temporary operational phase, maintaining the land's agricultural use in part. Land use at the Site would then be returned to full agricultural use following decommissioning of the Development after the 40-year operational period.

[6] Andrew Mott, Associate Director, IEMA Registered EIA Practitioner.

APPENDIX A

Site Location Figure

Figure 1 – Site Location



LIGHTROCKPOWER

ARCUS

Site Boundary

Local Planning Authority

Site Boundary area: 80.91 ha

1:15,000 Scale @ A3

0 300 600 m

NORTH

Produced By: EL	Ref: 4158-REP-019
Checked By: JM	Date: 26/04/2021

Site Boundary
Figure 1

Upper Leigh Solar Farm
EIA Screening Report

N:\Projects\Environment\4158 Lower Tean Leys, Staffordshire\4158 Lower Tean Leys, Staffordshire.aprx\4158-REP-019 Fig01 Site Boundary

APPENDIX B
Site Photographs

Aerial view of the Site from the east looking west. A50 in the right of the view and Leigh Lane Farm in the front left of the view

View from Middleton Green and Bustomley Lane areas looking northwest across the Site

View from Middleton Green and Bustomley Lane areas looking north/ northeast across the Site

View south of Blythe House looking east/ southeast towards the site illustrating intervening landform and vegetation