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24th January 2013

Screening Opinion for Proposed Solar Farm at Dove View, Moisty Lane, Staffs, ST14 8JY

Introduction

We write on behalf of Sun and Soil Limited and the owner of the land at Dove View, Moisty Lane (Steve Langridge), to formally request a Screening Opinion to determine the requirement for an Environmental Impact Assessment (EIA) to accompany a planning application for a proposed solar farm on the land at Moisty Lane, Staffordshire, ST14 8JY. This request is made under Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2011 (EIA Regulations).

As required under Regulation 5 of the EIA Regulations, we have provided below a brief description of the proposed project and its surrounding area, and a summary of the possible effects of the project on the environment. A site location plan identifying the site is also enclosed, along with a proposed layout for the development.

EIA Regulations

Under the EIA Regulations an environmental assessment is automatically required for 'Schedule 1' development. In relation to electricity and energy industry generation a Schedule 1 development is identified as:

- Thermal power stations and other combustion installations with a heat output of 300 megawatts or more; and
- Nuclear power stations and other nuclear reactors.

The proposed development is therefore not a Schedule 1 development.

The EIA Regulations also require an environmental assessment for a Schedule 2 development likely to have significant effects on the environment by virtue its nature, size and location. A project is classified as a Schedule 2 development if it falls within a category of development listed in Schedule 2 and meets one of the relevant criteria, exceeds one of the relevant thresholds, or is located in a sensitive area. In relation to the energy industry, a Schedule 2 development is identified as Industrial installations for the production of electricity, steam and hot water, with a development area that exceeds 0.5 hectare. The proposed development is considered to fall under the definition of Schedule 2 development. It is therefore appropriate to submit this request for Screening Opinion to East Staffordshire Borough Council (the Local Authority) to determine whether there are significant effects likely to arise from the proposed development.

Site selection criteria

The site was selected in consideration of having the following:

- a location not being within or adjacent to any Sensitive Sites or designated areas;
- a gentle topography;
- generally good existing screening and low visibility;
- land classified as Grade 3 or poorer under the Agricultural Land Classification of England;
- a close proximity to a feasible grid connection.

We consider this represents good practice when selecting sites for solar farms.

Furthermore the site will be designed to encourage biodiversity by keeping the existing hedgerows, planting new hedgerows and encouraging wild flowers of native and diverse species to grow within the site, thereby providing the surrounding wildlife a habitat refuge.

Site Location

The site for the proposed solar farm would occupy three fields, 10.5 Ha in total; currently the fields are being used as grassland and/ or arable crops and are considered to be a mix or Grade 4 and 3 agricultural land under the Agricultural Land Classification (England). The site is located around 1.9 km west of Marchington and 3.2 km south east of the city of Uttoxeter, with a number of farms in the surrounding area. The railway line between Uttoxeter and Tutbury and Hatton runs approximately 500 metres to the north of the site, as does the River Dove. Please refer to the attached Site Location Plan.

The proposed site area is surrounded by predominantly grassland fields used for grazing and some areas farmed for arable crops. Moisty Lane runs along the northern boundary of the site with hedgerow and sporadic mature trees along the north, east and west boundaries, with intermittent hedgerow along the southern site boundary. A public right of way (PROW) runs south east to north west and passes close to the south west corner of the site. Agricultural fields lie beyond the site boundaries, and the closest farm buildings are:

- Woodford Cottage approximately 100 m to the east
- Woodford Lodge approximately 150 m to the west
- Woodford Hall Farm approximately 320 m to the north
- Spring Green Farm located approximately 350 m south west of the site.

As mentioned above, there are a number of farm buildings within a 1 km radius of the site, all have substantial screening thereby minimising the potential impact on views.

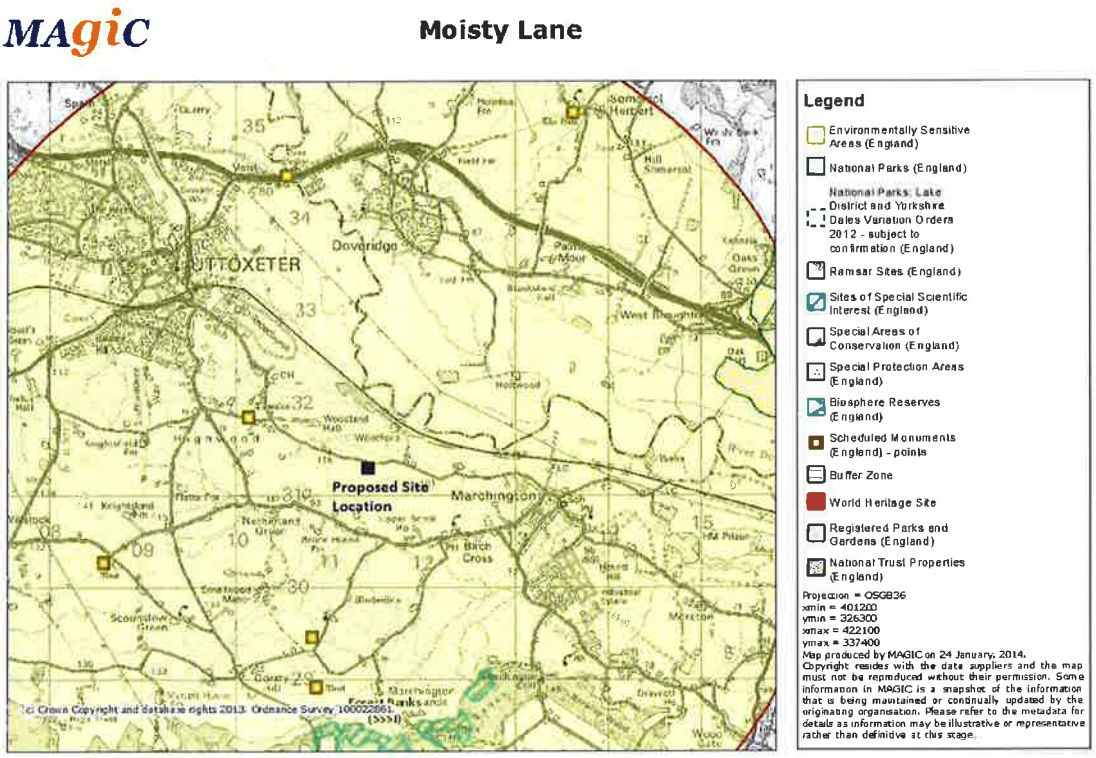
The site has a gently sloping topography from approximately 115 m AOD (above ordnance datum) on the western side to 100 m AOD on the eastern side.

There are no 'sensitive sites' as described within the EIA Regulations, such as Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSIs), National Parks, World Heritage Sites and scheduled monuments within or directly adjacent to the proposed development area. Figure 1 below shows a 5 km radius around the site and the locations of any sensitive sites in the region.

The closest AONB to the site is Cannock Chase, which is located over 15 km south west of the site. The nearest site of special scientific interest (SSSI) is the Forest Banks, which is located approximately 3 km to the south. There is also a national nature reserve; Chartley Moss, which lies around 8 km to the south west. The development of the proposed solar farm will have no impact on these sites and will not be visible from these locations.

The nearest Scheduled Monument is a bowl barrow on Toot Hill, located approximately 1 km to the west of the site; the site is not visible from this Scheduled Monument.

Figure 1: Location Map Showing 'Sensitive Sites'



The nearest Listed Building is a Grade II listed farmhouse at Woodford Hall Farm 320 m to the north, a Grade II Listed milepost outside Lower Brook House 670 m to the south west and two Grade II listings at Netherlands Farm 800 m to the south west. Other Listed Buildings lie between 1 to 1.5 km of the site, with two of particular note: The Church of St John's is Grade II listed and located 1.6 km south of the development site, which may have the potential to have some views of the site; and a Grade II* listed building, Woodroffe's Cottage, located 1.4 km south of the site, but the project should not be visible from this location due to the substantial screening between this building and the site.

The nearest Public Right of Way (PRoW) is the footpath that runs south east to north west and since this PROW runs close to the southern field boundary there may be views of the Project from section of the PROW. Additional planting to mitigate the visibility of the site would be determined as part of the planning application.

The nearest residential dwelling is Woodford Cottage lying around 100 m to the east. Existing trees provide some screening of views of the site. A Visual Assessment will be undertaken as part of the planning application which will determine the extent of any potential impact of views on this property and make recommendations for additional screening measures on the eastern site boundary, if required.

From a technical point of view the site is open, not shaded and close to a feasible connection to the electricity grid.

Figure 2: View from the centre of the site looking east

Source: Photo: OST Energy

Figure 3: View looking north west from the centre field

Source: Photo: OST Energy

Outline Project Description

It is intended to submit a planning application for the development of a Photovoltaic (PV) solar farm capable of generating approximately 4.3 MW of electricity. This would be sufficient to provide the power needs of over 1,173 average UK households and save in the region of 2,030 tonnes of carbon dioxide per year that would otherwise be generated through the use of traditional fossil fuels.

The proposed Project development involves the installation of PV panels arranged in rows covering a total site area of around 10.5 Ha (please refer to the attached Site Layout Plan). Panels will be mounted on a steel framework supporting structure which will be driven directly into the ground, with no need for any concrete foundations. The structure will follow the terrain and as such will not rise above 2.3m above ground level. The solar panels will be inclined to 25 degrees from the horizontal and orientated due south. Each individual photovoltaic panel is approximately 1,000 mm x 1,600 mm and of a glass construction set in an outer metal framework. The PV panels are connected by cables, running through conduits along the rows of panels, and junction boxes. Figure 4 shows a typical arrangement for PV panels within a solar farm.

In addition to the PV panels a solar farm comprises of the following:

- Inverters – are required to convert the direct current (DC) electricity generated by the PV panels, into alternating current (AC) for the grid. Inverter cabinets are typically in the order of 10m long, 2.5m wide and 3m high. The proposed Project will require 3 inverter cabinets which shall be painted dark green.
- Transformers are required to connect the solar farm to the high voltage grid, which would sit alongside or inside the inverter cabinets.
- A security system is required to prevent unauthorised access into the solar farm, which is an energy generation system, and to protect the solar farm. This will consist of an approximately 'rural style' 2m deer fence installed within the sites demise and pole mounted security cameras installed around the fence perimeter. The security cameras will employ infra-red technology and no site lighting will be required.
- The Distribution Network Operator (DNO) will also install a switchgear cabinet, which connects the underground grid connection cable of the solar farm to the distribution network. The size of this cabin will be determined by the DNO requirements, but it is likely to be a GRP enclosure no more than 4m long, 3m wide and 2.5m high.

The proposed project will export electricity to the national grid; the point of connection is to be confirmed by the DNO, in due course.

In order to avoid shading from the arrays on one another, the distance between rows of panels will be around 5m; which will create wide avenues left open between the panels. The total site area is 105,000 m^2, of which 24,080 m^2 will be covered with panels, leaving 77% (80,920 m^2) as open green space, which is significantly greater than standard good environmental practice of less than 50% cover. Furthermore, the proposed development would not have significant foundations or infrastructure requirements and therefore would have a minimal impact on the existing ground conditions. The unoccupied ground between rows of panels and under the panels will be seeded to produce a wildflower meadow and grassland area. Following the completion of a proposed development, the current farming activity of grazing with sheep can continue to co-exist with the erected solar arrays, thereby not significantly affecting the existing use of the land.

Access to the site would be gained via Moisty Lane. The largest field to the west has three access points along its northern boundary directly onto Moisty Lane, and an additional access point in the centre field will allow for numerous entrances which will help to minimise build-up of construction traffic. An additional access point connects the final field to the adjacent field directly to the east of the proposed site, which also has a convenient access point onto Moisty Lane. These existing tracks are expected to be of sufficient size to accommodate construction traffic.

Once constructed, access to the solar farm will typically generate 10 - 20 visits per year by technicians for maintenance works in 4x4s or transit vans. Maintenance will include washing the panels with water approximately twice a year and mowing the grass 4-6 times per year (if sheep are not used). There will be no on site office or permanent staffing of the site.

Figure 4: Typical PV Solar Panel Arrangement

Source: Photo: OST Energy

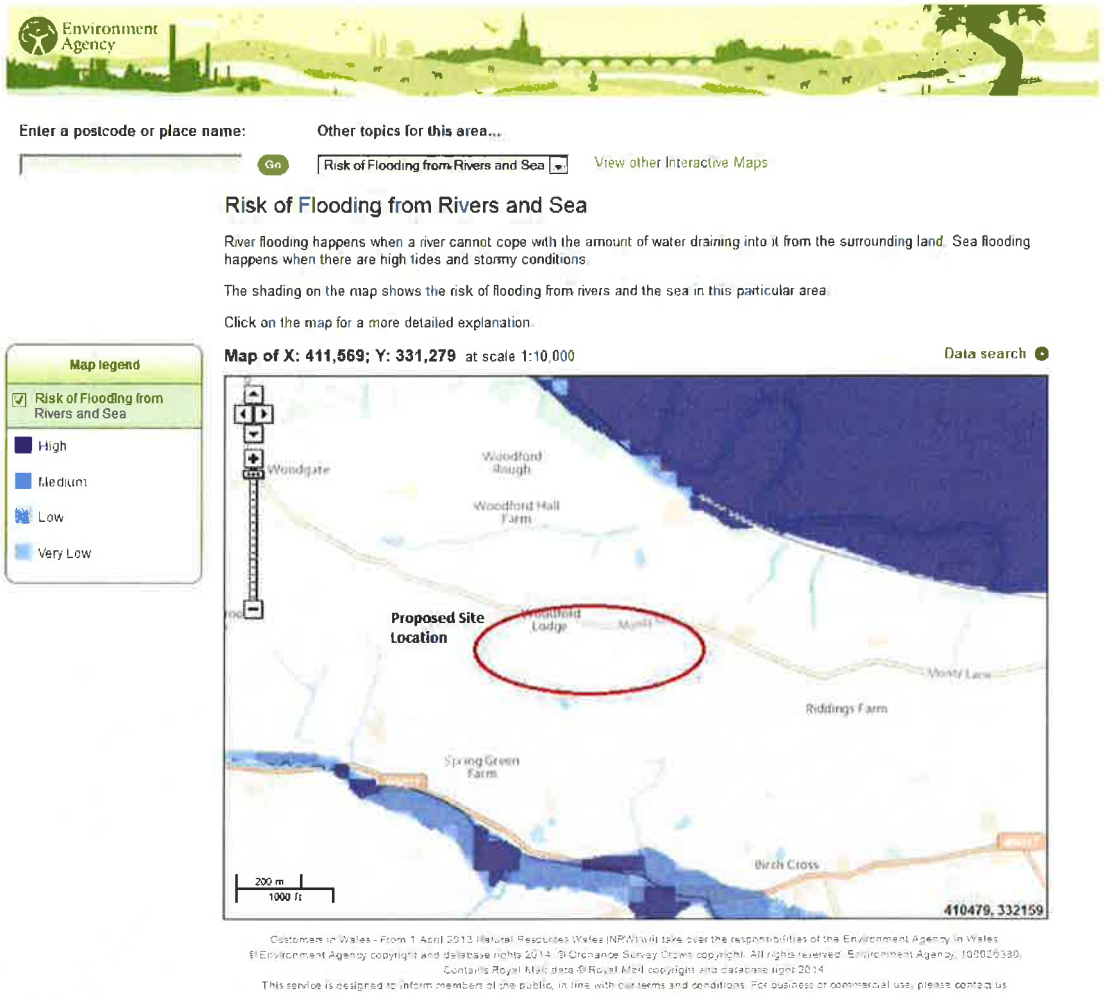
Effects on the Environment

Once constructed, the solar farm development will have very limited impacts on the environment. The panels are passive in nature, do not result in any emissions, will not generate any waste during operation (aside from any required replacement of components) and require very limited onsite activity, consisting of quarterly maintenance work. The solar farm will not result in any hazardous impacts, and it does not involve any unusually complex technologies. The risk of any accidents is very low, and restricted to construction and maintenance activities, which will be covered by health and safety plans. Solar PV is one of the least technically complex and lowest impact energy generation methods available.

As the panels do not form a continuous hard surface, vegetation will continue to grow under and between the panels and there will be very little change to site run-off. Therefore there will be no impact directly on or loss of soils; in fact the use of the site for a solar farm will allow soils to rest and regenerate as fallow land.

As part of the planning application a Flood Risk Assessment will be undertaken. Following a desktop based survey we have identified the area proposed for the solar development lies in a Flood Zone 1 area. To the north of the site lies an area identified by the Environment Agency as Flood Zone 3, however it would not impinge on this area; the Flood Zone map of the proposed location is shown on the Figure below. The development of the solar farm will not result in an increased risk of flooding to other areas. The design of the installation is such that it does not decrease the capacity of the land to absorb rainfall and will not increase run off to other areas.

Figure 5: Flood Zone Map



The most significant impact associated with solar farms is their potential to impact on the local landscape and the visible changes to the site. Part of the reason why this site was selected was due to the relatively limited visual impact the proposed project would have on the local landscape. The immediate surrounding area is characterised by predominantly agricultural uses and is rural.

It is considered that the visual impact of low lying solar equipment will not result in a material change to the character of the area, particularly when considering the existing surrounding hedges and tree-scape that will be retained, which afford some screening of the site. It should be noted that as part of the development of the Project additional screening through planting will be undertaken; for example hedgerows would be allowed to grown to a greater height and where gaps exist in the hedge line additional planting will be undertaken to fill gaps thereby ensuring the site remains largely unseen from near or far. The extent of planting for screening will be determined following the findings from a Visual Assessment that would be carried out as part of the Planning Application. It is therefore considered that any potential visual impacts beyond the immediate site would be very low.

There are no moving mechanical parts associated with the panels and no significant noise generating equipment or machinery, minimising the potential for noise generation from the development. Consequently no noise impact on even the closest local residents is anticipated.

Sometimes there is a perception that solar panels have the potential to create glint and glare impacts; however, photovoltaic panels are designed to absorb sunlight (rather than reflect it), minimising potential impacts of glint and glare.

Once the solar array is operating, it is anticipated there will only be limited visits required to the site for routine maintenance. Thus any impact arising from increased traffic will be negligible.

Furthermore, the development of the proposed solar farm will also identify and include ecological enhancement measures, such as creation of a wildflower meadow within the project area, supplementary hedgerow planting, and creation of wildlife habitats, such as hibernacula, bird and bat boxes. The intention is to ensure that the project has an overall net benefit to the local ecology and wildlife.

The site will be developed and used for solar energy production for a period of 25 years. It is intended that the site will then be decommissioned in its 26th year, the infrastructure removed and the land returned back to agricultural use.

Figure 6: Solar Farm with wildflowers

Source: Photo: OST Energy

EIA Screening

The Screening process should consider the development proposals against the criteria and thresholds which are included within the EIA Regulations and accompanying guidelines in Circular 02/99, in determining whether or not an EIA is required to accompany an application. Schedule 3 of the EIA Regulations provides selection criteria for Screening Schedule 2 development, which includes the following three categories to consider:

- the characteristics of the development (e.g. its size, use of natural resources, quantities of pollution and waste generated);
- the environmental sensitivity of the location; and
- the characteristics of the potential impacts (e.g. its magnitude and duration).

We consider that the proposed solar farm does not fall within the above selection criteria, based on the following reasoning:

Characteristics of the development	Although the proposed solar farm occupies 10.5 Ha of land, the development will be close to the ground and coupled with significant existing screening and proposed new screening, will have very limited local impact. Throughout the operational life of the project there will be no resources consumed, no pollution emitted or wastes generated.
Environmental sensitivity of the location	There are no environmentally sensitive sites close to or within the proposed site area and therefore no impact on sensitive sites will occur due to the development of the proposed project.
Characteristics of the potential impacts	The magnitude and complexity of any impacts are expected to be limited, confined to the local area and are predictable. The duration and frequency of the potential impacts are not significant and (with the removal of the panels after 25 years) are reversible.

In addition to this, for Schedule 2 developments, paragraph 33 of Circular 02/99 states that generally EIA will be required in three main cases:

- *For major developments which are of more than local importance* – the proposed solar farm is not considered to be of more than local importance.
- *For developments which are proposed for particularly environmentally sensitive or vulnerable locations* – the development is not sited in a particularly environmentally sensitive or vulnerable location.
- *For developments with unusually complex and potentially hazardous environmental effects* – the proposed solar farm is not considered to have any complex or hazardous environmental effects.

It is therefore considered that the proposed development does not have significant effects on the environment when considered against these factors and as such, it is not an EIA development and does not therefore require an Environmental Statement to be prepared.

Summary

Based on the criteria set out in the EIA Regulations and Circular 02/99, we consider that the proposed development does not require the preparation and submission of an Environmental Impact Assessment for the following reasons:

- Due to the nature and scale of the proposed solar farm any potential impact is minimal and only limited to the immediate area surrounding the project and therefore of no more than local importance.
- There are no sensitive sites, as defined under the EIA Regulations, within or close to the proposed Project.
- Due to the passive operational nature of the solar farm it is considered that the development will not constitute a significant negative effect upon the environment.
- The proposals are not unusually complex and do not pose potentially hazardous environmental effects.

Given the benign nature of the proposals coupled with the generally limited environmental value of the current site, it is considered that whilst there will be some effects upon the environment as a consequence of the scheme, none of these are considered to constitute 'significant effects' upon the environment, as set out in central Government guidance. Accordingly, it is considered that the proposals do not constitute EIA development and would not require an Environmental Statement to be submitted with a planning application for the scheme.

The site was selected due to it not being close to any sensitive sites, having a gentle topography, screened with low visibility, being agricultural land classification Grades 3 and 4, and close to a feasible grid connection.

In acknowledgement of the potential for the proposed development to create some effects on the environment, a number of supporting studies to assess the effects of development will be submitted as an accompaniment to any planning application. We propose that these studies are prepared and submitted to ensure that appropriate regard is given to environmental requirements throughout the development and in consultation with the Local Authority; these studies could include:

- Transport Statement
- Ecological Survey and Assessment
- Biodiversity Planting Action Plan
- Visual assessment
- Agricultural Assessment (desk based)
- Flood Risk Assessment
- Heritage Assessment (desk based).

Solar farms such as this are recognised and acknowledged as having low levels of impact on their surroundings and settings, whilst supporting the requirements for renewable energy production and sustainable development. Solar farms are at the leading edge of zero emission energy generation, and will play an increasingly important role in moving the UK towards a low carbon economy.

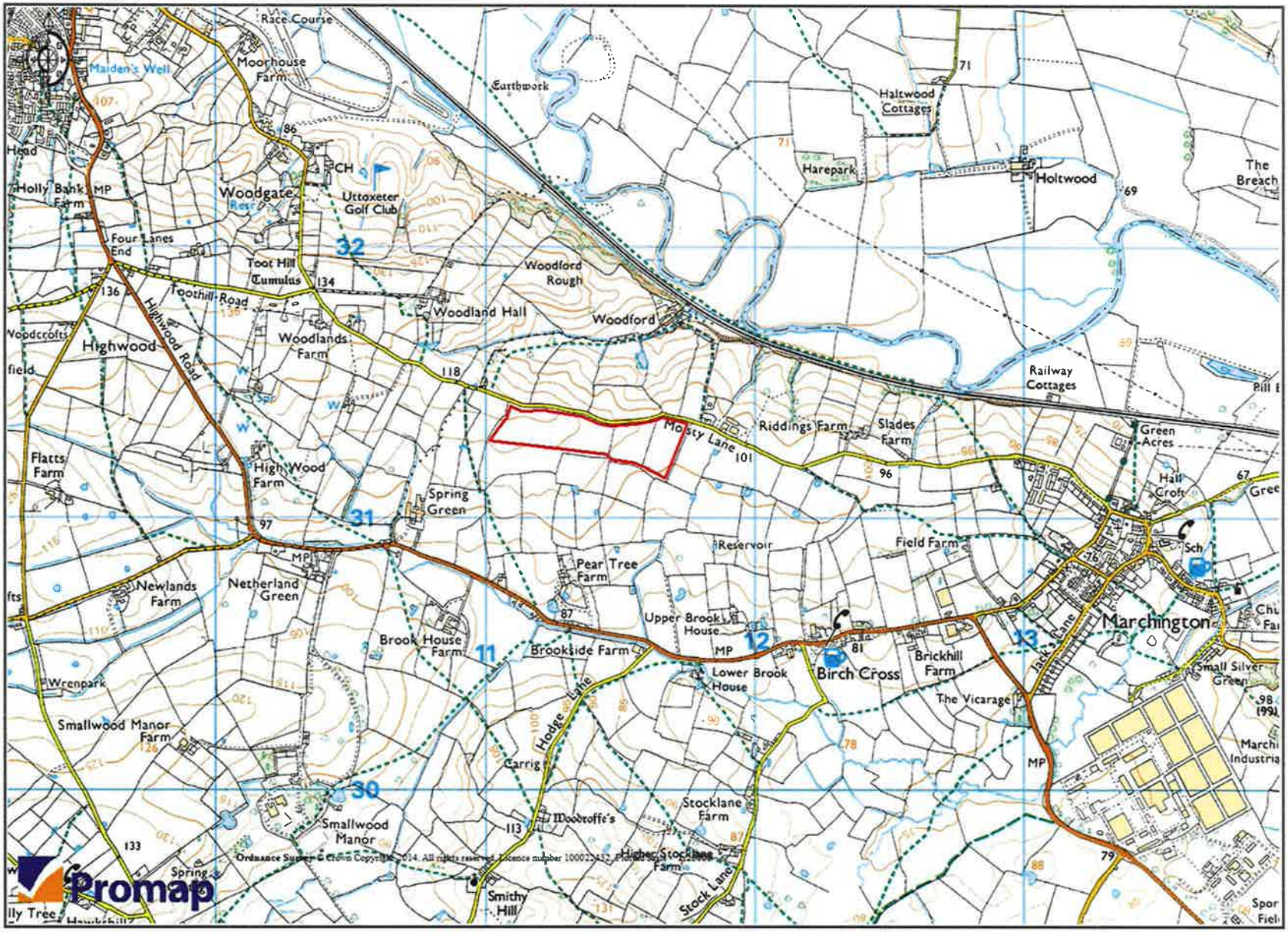
Furthermore, the proposed Project will be designed so as to have a net benefit on the local ecology and improve local biodiversity through the selective planting of wildflowers and hedging using local and appropriate plant species.

We trust that we have provided you with sufficient information for you to make a Screening Opinion for the proposed solar farm. Should you have any queries or would like to arrange a further meeting to discuss our proposals, please do not hesitate to contact me.

We look forward to receiving the Council's Screening Opinion within the necessary timeframe specified by the EIA Regulations.

Kind Regards

Mark Grundy



Key

Proposed Site Location

Moisty Lane, Marchington, ST14 8JY

Site Location Plan

Drawn by:AS	Checked by: MG
Date: 24/01/2014	

1 : 25,000 @ A4

N

0 1km

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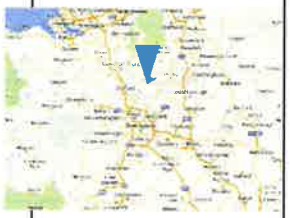
Drawing number:
Moistly Lane-100

Scale: (dimensions in metres)
1:3000@A3

Drawing title:
Preliminary design

Location:



System size DC:	4.1MWp
System size AC:	3.6MVA
Leased area:	10.5ha

proposal only

Revision:	00
Drawer:	AS
Checker:	SR
Approved:	MG
Date:	24/01/14