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Stobart Solar Ltd

Solar Photovoltaic Array Southend Airport

Ecological Risk Assessment Report

October 2014

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Approved	Dominic Watkins
Position	Director
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1.0 INTRODUCTION

1.1 Background

1.1.1 Chris Blandford Associates (CBA) was commissioned by London Southend Airport Co. Ltd. (LSACL) to undertake an Ecological Risk Assessment of land at Southend Airport, which has been identified as a potential location for a Solar Photovoltaic (PV) Array.

1.2 Scope

1.2.1 This report provides an overview of the potential ecological risks that the development of the PV array may need to address, including constraints associated with the presence of species protected by law, or considered to be of nature conservation value, as a component of its planned development.

1.3 Constraints

1.3.1 The report follows a site visit to walk over the proposed location of the PV array, and relies on desk study and field surveys undertaken in association with other developments that have been commissioned previously at the airport. No species specific surveys have been undertaken to inform the PV array planning application and as such, the findings of this report should be viewed as an assessment of likely risks that the project would need to address through its planning and delivery.

2.0 METHODOLOGY

2.1 Risk Assessment Methodology

2.1.1 The site visit was undertaken on the 24th October 2014, to walk over the proposed location of the PV array, to identify potential issues and constraints that may need to be addressed through the planning and delivery of the proposed project. The site visit identified evidence (where this was apparent), as well as habitat potential for, the presence of species protected by law, or considered to be of nature conservation value.

2.1.2 Additionally, existing historical ecological survey data (relating to the airport and its environs) was also reviewed, to determine the presence, or likely presence of habitats and/or species of nature conservation value on or near the site.

2.1.3 Where appropriate, risks were identified and measures to address those risks have been outlined.

3.0 HABITAT AND SPECIES SUMMARY

3.1 Desk Study Information

Designated Sites

3.1.1 The government's Magic website[1] identifies the nearest designated sites as being the Essex Estuaries SAC and the Crouch & Roach SSSI/SPA/Ramsar, which lie approximately 2.5km to the east of the proposed development site. Both sites are predominantly designated for their estuarine habitats which support the breeding, wintering and passage of migrant bird assemblages.

Desk Study Data

3.1.2 A review of the Halcrow's report[2] for the Southend Airport and Environs Joint Area Action Plan (JAAP) characterises the proposed PV site as comprising 'tall ruderal vegetation'. The Eastwood Brook forms the western boundary of the Site, although it is located outside the perimeter fencing of the airport.

3.1.3 The operational airfield lies to the north, south and east of the proposed development site.

3.1.4 An Environmental Statement, prepared by Jacobs (2009), in relation to a runway extension identifies the proposed development site as poor semi-improved grassland. Species surveys, undertaken in 2009 as part of the Environmental Impact Assessment, and which are considered relevant to this risk assessment, identified the presence of a badger sett in an area of scrub adjacent to the proposed development site.

3.1.5 No evidence for the presence of reptiles were recorded in the areas of suitable habitat immediately south of the proposed development site.

[1] http://www.magic.gov.uk/MagicMap.aspx
[2] Halcrow (2008) London Southend Airport & Environs Study JAAP Evidence Report. For and on behalf of Rochford District Council and Southend-on-Sea Borough Council

3.2 Walk over survey

Habitats

3.2.1 The survey confirmed the site as comprising poor semi-improved grassland. This grassland appears to be managed periodically by mechanical cutting, for airport safeguarding, to prevent bird strikes by flocking birds. A view of the north eastern boundary of the field is shown in **Photo 1**.

3.2.2 There are four young, to semi-mature, oaks *Quercus robur* situated along the eastern boundary of the proposed development site. The general form of the oaks is illustrated in **Photo 2**.

3.2.3 The Eastwood Brook forms the western boundary of the proposed development site.

Species

3.2.4 Evidence for the presence of **badgers** *Meles meles* was recorded in the form of well-worn paths, latrines and evidence of foraging (snuffle holes). The paths led to the area of scrub in the north eastern corner of the development site. Evidence for one sett entrance was recorded. Badgers are confirmed as present and active in this north east corner of the development site. The location of the sett is in ground that is slightly elevated in comparison with the proposed development site. There is also a shallow, waterlogged, depression separating the scrub from the proposed development site and furthermore, the field for the proposed development forms part of the functional floodplain of the Eastwood Brook.

3.2.5 The four oaks were assessed for their potential to support **bats** by visual inspection from the ground. None of the four oaks exhibit any of the features that could potentially support bat roosts. None of the branches were broken or fractured, neither were any of the branches nor the trunks fissured nor was any ivy present. Given the size of the trees and easy access, each tree could be fully and carefully inspected from the ground.

3.2.6 There is limited potential for **grass snakes** *Natrix natrix* to be present. However, the field is open with no obvious refuges that could offer snakes protection from predation, or as suitable locations for sheltering and hibernation. Further, the field is also periodically subject to flooding, which further reduces its potential as habitat suitable for hibernating reptiles. Moreover, the uniform nature of the field limits its value in supporting prey species and as a foraging ground for reptiles.

3.2.7 Given the manner in which airports are managed, there is only limited potential for the proposed development site to support **breeding birds**. It is feasible that some birds nest in the hedgerows beyond the perimeter fencing, but within the field itself, nesting is unlikely beyond the occasional robin *Erithacus rubecula*, wren *Troglodytes troglodytes*, blackbird *Turdus merula* and blue tit *Cyanistes caeruleus* in the scrubbier areas along the eastern boundary.

4.0 RISK ASSESSMENT

4.1 Designated Sites

4.1.1 It is considered that neither the scale, type, nor location of the proposed development would adversely affect any sites designated for their nature conservation value.

4.2 Habitats

4.2.1 The grassland is of very limited botanical interest and is not managed in a manner conducive to enhancing its ecological value, due to the requirements of airport safeguarding. It is therefore considered that there would be no ecological risks associated with the development of the field, for a PV array.

4.3 Species

4.3.1 Badgers are protected under the Protection of Badgers Act 1992. The presence of badgers on or nearby to the development site does not prevent development taking place but would require a Natural England licence for any development works undertaken within up to 30metres of a sett, dependent on the specifics of the construction activity. Generally, licences place seasonal restrictions on when construction works can be undertaken that could affect badgers or their setts, with no works being permissible between 30th November and 30th June.

4.3.2 It is understood that construction will require the piling of the PV array framework to a depth of 1.5m. Additionally, trench excavations not exceeding 300mm (depth) will also be required for cabling. The percussive nature of piling has the potential to cause disturbance to badgers occupying nearby setts, therefore, any piling works within 30m of the sett would most likely require a licence. Much less risk is associated with the construction of the cabling trenches due to the shallow depth of the intended works.

It is considered that the extent of the sett would be restricted to the slightly raised ground to avoid potential waterlogging and flooding which would occur if it extended beneath the field for the proposed development. It is therefore considered extremely unlikely that the sett would be directly affected by the proposed construction activities.

4.3.3 None of the oak trees provides any potential for roosting bats.

4.3.4 The site itself provides no opportunity for hibernating grass snakes, due to periodic inundation and absence of any features that could be used as refuges. However, there is limited potential

for the presence of grass snakes using the Eastwood Brook as a corridor for foraging and dispersal and it would therefore be necessary to undertake a survey to determine their potential presence in Spring. Should they be found mitigation measures can be taken prior to construction to ensure no grass snakes are harmed during the construction process.

4.3.5 None of the proposed development would affect habitat that could support breeding birds (the canopies of the oak trees are too open, and no evidence of previous nesting activity was recorded in any of the trees).

5.0 RECOMMENDATIONS

5.1 Further Surveys

5.1.1 It is recommended that a survey to determine the presence of grass snakes is undertaken in the Spring, dependent on weather this could be undertaken between mid-April and mid-May. Dependent on the numbers of grass snakes recorded, it is considered likely that the most appropriate mitigation would be habitat manipulation through a carefully controlled mowing regime, prior to the commencement of any construction works. However, should significant numbers of grass snakes be recorded (more than 1 or 2 individuals), further mitigation measures may be necessary.

5.2 Construction Avoidance Measures

5.2.1 Notwithstanding the potential presence of grass snakes, development of the PV array could be undertaken outside a 30 metre exclusion zone around the badger sett, without requirement for any further mitigation. Works within 30 metres, specifically the piling of the steel framework, will most likely require a Natural England licence. This licence will only permit works within 30 metres of the sett between 1st July and 30th November and as such, it is recommended that the construction of the PV array is phased to take into account this time restriction.

PHOTOGRAPHS

Photo 1: General view of the north east boundary of the proposed development site

Photo 2: Oak form and structure

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