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JER2943

**Extended Phase 1 Report**  
**For the**  
**Sustainable Energy Facility**  
**For**  
**Novera Energy Limited**  
**PRIVATE AND CONFIDENTIAL**

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# 1 INTRODUCTION

## 1.1 Site Description

The site lies within the London Borough of Havering in the county of Greater London, in South East England. Major transport routes in the locality are the M25 within approximately 8 miles, the A13 approximately 1km and Rainham rail station approximately 2km from the site. The nearest town and residential area is South Hornchurch which is situated to the north of the site. Dagenham is within 5km to the northwest. The site location is illustrated in *drawing number Jer2943-003*.

The site of the proposed development is on land within the Ford Motor Company Complex at Dagenham on the northern bank of the River Thames. The site lies within an industrial area and is bounded to the north and west by the Ford Motor Company car compound, to the east by a depot and Fairview Industrial Park, and by the River Thames to the south. Adjacent to the depot on the east side of the site and approximately 100m away, is the Shanks Frog Island Facility

The development, which has been proposed by Novera Energy Limited, involves the construction of a gasification/power generation facility designed to provide a sustainable energy facility. It will produce clean energy in the form of synthetic gas for use in a power generation plant that can export in the region of 10MW of electricity to the national grid or to a specific user.

The facility would be fuelled predominately by the Solid Recovered Fuel (SRF) materials produced by the Frog Island Biological Materials Recycling Facility (Bio-MRF) adjacent to the site. It is intended that in order to transport the materials from the Bio-MRF at Frog Island, to the site, an enclosed conveyor on stilts will be constructed from the Frog Island depot directly to the facility through the southeast corner of the site. However, if this proposal is not approved the material will be delivered by road transport via Creek Marsh and Frog Lane, and this will require the use of less than 300m of public highway.

## **2 SCOPE**

Novera Energy Limited has appointed RPS Planning, Transport and Environment to undertake an Extended Phase 1 Habitat Survey at the proposed sustainable energy facility site. The proposed development will involve the construction of a renewable energy facility in the grounds of the Ford Motor Car Company at Dagenham.

This stage of ecology work comprises three components as follows; a desk study, a Phase 1 Habitat Survey and a protected species audit, with the output being the acquisition of information on existing ecological records, a map showing the habitats on the site and an assessment of the site for protected species. The results of this stage provide a description of the ecology in the area, an interpretation within the development context and, if required, recommendation of further surveys. The further surveys, which usually consist of species-specific surveys, would then form Phase II of the ecology works.

### **2.1 Desk Study**

The desk study forms an important part of an Extended Phase 1 Habitat Survey, as it identifies local areas of protection or designation and also local ecological records. Local groups, such as the Wildlife Trust or the local biological/environmental records centre are contacted and sent a map illustrating a 2km radius around the site. All ecological records for this area can then be obtained. This can also contribute to the requirement for species-specific surveys. This information provides a background to, and knowledge of the ecology and thereby helps to inform the assessment.

The protected or designated areas are important to identify, as any development must be assessed within the local context. The integrity of protected sites must not be affected by proposed development. Therefore, any European designations such as a Special Area of Conservation (SAC) or a Special Protection Area (SPA) that occur within 10 km of the proposed site must be evaluated with the development plan. National designations within 2km of the development, such as legally protected Sites of Special Scientific Interest (SSSI), also cannot be adversely affected. Therefore the location and nature of the citation must also be investigated and considered,

to ensure that the integrity of the SSSI is not affected. In addition there are non-statutory designations such as Sites of Importance for Nature Conservation (SINCs), which also need to be evaluated within the context of the development proposal.

## **2.2 Phase 1 Habitat Survey**

A Phase 1 Habitat Survey follows the procedure set out in the Joint Nature Conservation Committee Guidelines (Handbook for Phase 1 habitat survey - a technique for environmental audit. JNCC, 1990). This provides a relatively rapid method of recording vegetation, as generic alphanumeric codes and colours represent habitat types. Areas of land are visited and mapped, with classification based principally on types and species of plants. Target notes are produced (to accompany the maps) and these are generally used to identify any areas where further work is required, points of interest or special considerations.

## **2.3 Protected Species**

There are different levels of legislation and protection for different species and these can operate at a European and National level. There are also non-legal designations, such as Biodiversity Action Plans that need to be considered for species, which can be on a National and Local level.

A protected species audit looks at habitat potential, indicative signs of species or known presence to trigger further, species specific survey requirements, which takes place in stage 2. The audit would undertake a basic evaluation and likely presence, or potential for, the suite of protected species that would need to be considered. Protected species are a material consideration when looking at a planning application and therefore this aspect is important to the whole ecology study.

### **3 LEGISLATION AND DESIGNATIONS**

#### **3.1 European Law For The Protection Of Species**

In 1992 the European Community adopted Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive). This is the means by which the Community meets its obligations as a signatory of the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). The provisions of the Directive requires Member States to introduce a range of measures including the protection of species listed in the Annexes; to undertake surveillance of habitats and species and produce a report every six years on the implementation of the Directive. The 169 habitats listed in Annex I of the Directive and the 623 species listed in Annex II are to be protected by means of a network of sites.

This has led to species on the Annex being designated as 'European Protected Species'. All bat species and great crested newt are both classed as 'European Protected Species' under the 'Habitats Directive'.

#### **3.2 UK Law For The Protection Of Species**

##### *3.2.1 Wildlife and Countryside 1981 (as amended)*

The Wildlife and Countryside Act 1981 (WCA 1981) consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain. It is complimented by the Wildlife and Countryside (Service of Notices) Act 1985, which relates to notices served under the 1981 Act, and the Conservation (Natural Habitats, &c.) Regulations 1994, which implement Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

The Act makes it an offence (with exception of species listed in Schedule 2) to intentionally kill, injure, or take any wild bird or their eggs or nests. The Act makes it an offence (subject to exceptions) to intentionally kill, injure, or take, possess, or trade in any wild animal listed in Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally

disturbing animals occupying such places. Animals listed within this schedule include all bats and their roosts, great crested newt and birds and their nests. Four species of reptile are also protected against killing and injuring. These are common lizard, slow worm, grass snake and adder.

The Act makes it an offence (subject to exceptions) to pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8, and prohibits the unauthorised intentional uprooting of such plants.

The Act contains measures for preventing the establishment of non-native species, which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9. It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities. Invasive plants listed within Schedule 9 include Japanese Knotweed and Giant Hogweed.

### 3.2.2 *Countryside and Rights of Way Act 2000*

The Countryside and Rights of Way Act 2000 (CROW Act) relates to public access, Areas of Outstanding Natural Beauty (AONB) and nature conservation. The key change in this Act, with regard to species protection, is the update of the Wildlife and Countryside Act 1981 (as amended). Where the WCA 1981 stated that any intentional disturbance, destruction, killing, injuring etc, the CROW Act has also added *reckless*. This change therefore allows prosecution for not undertaking reasonable measures to ensure that protected species, for example, were not being affected. Before the CROW Act, ignorance was permitted.

## 3.3 **Non-Statutory Designations Of Species**

### 3.3.1 *IUCN Red List of Threatened Species*

The IUCN (International Union for the Conservation of Nature and Natural Resources) - The World Conservation Union through its Species Survival Commission (SSC) has been assessing the conservation status of species, subspecies, varieties and even selected subpopulations on a global scale for four decades in order to highlight taxa threatened with extinction, and therefore promote their conservation. The result of this process has been the production of the IUCN Red Data Book. This has been superseded from 1994 onwards by the production of the IUCN Red List of Threatened

Species, which provides taxonomic, conservation status and distribution information on taxa that have been globally evaluated using the IUCN Red List Categories and Criteria. This system is designed to determine the relative risk of extinction, and the main purpose of the IUCN Red List is to catalogue and highlight those taxa that are facing a higher risk of global extinction.

The IUCN Red List Categories as stated in 1994 and pre-1994 are to be found in Appendix A. The most recent categories were produced in 2001- should these be downloaded off the IUCN website and put into Appendix A or is a photocopy of the information provided by Thames Valley ERC sufficient?

### 3.3.2 *Biodiversity Action Plan*

The Biodiversity Action Plan (BAP) is the product of the Convention on Biological Diversity or the Rio Convention in 1992. The Convention sought to produce the first treaty that provided a legal framework for biodiversity conservation. It provided the tool required for the creation and enforcement of national strategies and action plans to conserve, protect and enhance biological diversity.

In 1993, the UK government consulted with over three hundred organisations throughout the UK and held a two-day seminar to debate the key issues raised at the Biodiversity Convention. The product of this was the launch of *Biodiversity: the UK Action Plan* in 1994.

There are now 436 BAPs for different areas, 391 species action plans (SAPs), and 45 habitat action plans (HAPs). Local Biodiversity Action Plans (LBAP) are becoming increasingly important for biodiversity conservation at a local level. A significant number of local BAPs are now in existence and their primary purpose is to focus resources by means of local partnerships to implement conservation action for the priority habitats and species and locally important wildlife and sites.

Species that have action plans include bats, skylark and song thrush. Species that are identified under the UK BAP as being globally threatened and rapidly declining in the UK by an estimated 50% or more in the last 25

years are 'priority species' and are the focus of specific UK BAP Priority Species Action Plans.

Havering Wildlife Partnership put in place Phase 1 of the Havering Biodiversity Action Plan in April 2003. This comprises SAPs with targeted actions for national priority species and also species of local conservation importance, namely London priority species. The LBAP includes SAPs for great crested newt (UK BAP Priority Species), slow worm (London priority species), water vole (UK BAP Priority Species), song thrush (UK BAP Priority Species) and skylark (UK BAP Priority Species).

The London Biodiversity Partnership launched the first round of SAPs for Greater London in January 2001 and the second round in January 2002. SAPs have been prepared for bats (six species are UK BAP Priority Species), water voles (UK BAP Priority Species), grey heron, black redstart, house sparrow, stag beetle (UK BAP Priority Species), mistletoe, tower mustard (UK BAP Priority Species), sand martin, reptiles, peregrine, and black poplar. Species statements have been prepared for the house martin and brown banded carder bees.

### 3.3.3 *Birds of Conservation Concern 2002-2007*

There are also non-statutory designations for birds to indicate their conservation status. The most widely used and most recent is the Birds of Conservation Concern (2002-2007). This was set up by the major governmental and non-governmental organisations including Birdlife International, Royal Society for the Protection of Birds, English Nature and the Wildlife Trusts. This divides the bird species into red, amber and green lists, according to conservation status. The organisations assessed 247 birds; 40 were placed in the red lists, 121 were amber listed and 86 were put on the green list. The red listed birds are those in most need of protection due to their unfavourable conservation status. There are several qualifying criteria for the red list but all species show severe decreases in numbers or habitat. One qualifying criterion for the red list is that the numbers have decreased by 50% between 1974 and 1999. The amber listing represents those birds that have a moderate decline in the last 25 years, moderate being between 25% and 49%, as well as those with a moderately reduced distribution. Bird species on the Green List are not of conservation concern but are closely monitored for any change in population status.

### **3.4 European Designations For Habitats**

There are two main European habitat designations in the UK. Special Protection Areas (SPAs) are designated for birds, whereas Special Areas of Conservation (SACs) are designated for habitats and species of European importance.

SACs and SPAs form a European network of sites, known as Natura 2000. As part of the Habitats Directive and an amendment to the Birds Directive, an additional level of protection was issued to these sites. The precautionary principle must be considered for these sites; that is projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the designated site.

### **3.5 UK Designations For Habitats**

#### **3.5.1 Statutory**

The Wildlife and Countryside Act 1981 (as amended) provides for the notification of Sites of Special Scientific Interest (SSSI) – areas of special scientific interest by virtue of their flora, fauna, geological or physiographical features – by the statutory agencies. The Act also contains measures for the protection and management of SSSIs. SSSIs are protected from any 'Potentially Damaging Operations' and have increased protection with the Countryside and Rights of Way Act 2000.

Other statutory designations include National Nature Reserves (NNR) and Local Nature Reserves (LNR). NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain, and are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981. Under the former legislation LNRs may be declared by local authorities after consultation with the relevant statutory nature conservation agency.

#### **3.5.2 Non statutory**

There are various designations that are made on a local level that do not have a statutory basis, but have local nature conservation interest. Different local authorities have different designations and include County Wildlife Sites (CWS) and SINC (Sites of Importance for Nature Conservation). These designations must be evaluated as part of a planning proposal, and in

Greater London, these sites are SINCs, and each is classified according to the following categories: Sites of Metropolitan Importance; Sites of Borough Importance (Grade I); Sites of Borough Importance (Grade II) or Sites of Local Importance.

### *Habitat Action Plans*

The Convention on Biological Diversity (CBD) held in Rio de Janeiro in 1992 led the UK government to consult with over three hundred organisations throughout the UK and hold a two-day seminar in 1993 in order to debate the key issues raised at the CBD. This ultimately resulted in the production of the UK Biodiversity Action Plan (UK BAP) in 1994.

Habitat Action Plans (HAPs) are formulated under the UK BAP, and comprise:

- Broad Habitat Statements - summary descriptions of 28 natural, semi-natural and urban habitats - the current issues affecting habitats and broad policies to address them.
- UK BAP Priority Habitat Action Plans - detailed descriptions for 45 habitats falling within the Broad Habitat classification and detailed actions and targets for conserving these habitats.

Havering Wildlife Partnership are currently preparing HAPs to be included in the Local Biodiversity Action Plan (LBAP) for the London Borough of Havering.

The London Biodiversity Partnership launched in January 2001 and January 2002 alongside a number of SAPs, a series of HAPs for Greater London.

## **3.6 Planning Policy**

This section outlines key issues relating to national planning policy and subsequent local planning policy for nature conservation, which directly influences strategic land-use planning and development control decisions at a local level.

### 3.6.1 *The Planning System*

The commencement of the Planning and Compulsory Purchase Act in September 2004 has brought about the start of a total reform of the planning system in England, with all changes anticipated to be in place three years from the Act coming into effect.

### 3.6.2 *National Planning Policy*

The Government's national land-use planning policies are set out in Planning Policy Guidance notes (PPGs), which since the commencement of the Act are gradually being superseded by Planning Policy Statements (PPSs). The contents and legislative background to these policies must be taken into account by Local Planning Authorities when preparing their Local Development Frameworks (replacing Local Plans), and making development control decisions.

Planning Policy Guidance note 9: Nature Conservation (PPG9) published in 1994, gives guidance on how the Government's policies for the conservation of our natural heritage are to be reflected in land use planning. It embodies the Government's commitment to achieving sustainable development and to conserving the diversity of our wildlife. This guidance:

- sets out the Government's objectives for nature conservation, and the framework for safeguarding our natural heritage under domestic and international law;
- describes the key role of LPAs and English Nature;
- emphasises the importance of both designated sites and undesignated areas for nature conservation;
- advises on the treatment of nature conservation issues in development plans;
- states development control criteria, particularly for Sites of Special Scientific Interest and sites with additional national and international designations;

- contributes to the implementation of the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive);
- elaborates on minerals development and nature conservation, and on the development control implications of species protection.

Under the new planning system, PPG9 will in due course, be replaced by Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9), which is currently at draft stage and when launched, will be accompanied by a new Government Circular which will cover relevant legislative provisions, and a good practice guidance. This draft sets out the Government's broad policy objectives in relation to biodiversity and geological conservation in England, and its proposed planning policies that will help deliver these objectives. These policies reflect statutory obligations for nature conservation, and are firmly based on the principles set out in *'Working with the grain of nature – a biodiversity strategy for England'* (Defra, 2002).

### 3.6.3 Local Planning Policy

Under the new planning system LPAs are required to replace existing Local Plans with Local Development Frameworks, which are in essence a portfolio of Local Development Documents (LDDs). Local level policies relating to nature conservation formulated by LPAs will be incorporated into the LDDs as core policies and these should be in line with the national policies and guidelines provided in PPS9.

At the present time, adopted Local Plans (these can be saved for three years after commencement of the Act) should contain policies focusing on nature conservation, and specific policies on designated sites and species protection which must be in accordance with PPG9.

## **4 METHODOLOGY**

### **4.1 Desk Study**

The statutory European and National designations were obtained electronically through a GIS package. The designations searched for included Ramsar sites, SPA, SAC, SSSI, LNR and Ancient Woodland. These designations were then plotted onto a map to highlight the distance from the site, with designated sites of international and European status being searched for within a 10km radius of the site and nationally and locally important designated sites searched for within a 2km radius of the site.

Greenspace Information for Greater London (GIGL) which is part of London Wildlife Trust were contacted in May 2005 with a request for data on species recorded within a 2km radius of the site, and as a result provided a list and a map of protected and notable species within the search area, a map of non-statutory designated sites within the search area and citations and descriptions for designated sites.

### **4.2 Phase 1 Habitat Survey**

The Phase 1 Habitat Survey was undertaken at the proposed development site on 6th May 2005.

### **4.3 Protected Species Audit**

The site was surveyed during the day on 6<sup>th</sup> May 2005 in conjunction with the Phase 1 Habitat Survey. This was to identify any potential habitat for, or signs of protected species such as water vole, great crested newt, badger and reptiles.

## 5 FINDINGS

### 5.1 Desk Study

The desk study revealed that there are no international or European designations within 10km of the site. With regards to statutory national designations, there are two SSSIs and one LNR within 2km of the site. The desk-based search conducted by Greenspace Information for Greater London shows that there are thirteen non-statutory sites within 2km, all of which are SINCs.

The London Greater Authority identifies SINCs on account of their flora and fauna, and they are of Greater London or regional importance. The SINCs have been identified since 1986 using procedures that have now been adopted by the Mayor of London, and they are recommended for protection in planning. There are three kinds of site, which are chosen on the basis of their importance to a particular defined geographic area, categorised as follows:

- Sites of Metropolitan Importance for Nature Conservation – contain the best examples of London’s habitats, particularly rare species, rare assemblages of species or important populations of species, or are sites of particular significance within otherwise heavily built-up areas of London. These sites are of the highest priority for protection.
- Sites of Borough Importance – are important within a borough perspective in the same way the Metropolitan sites are important to the whole of London. Since 1988 Borough sites have been divided, on the basis of their quality, into two grades.
- Sites of Local Importance - are, or may be of particular value to local people and may already be used for nature study or run by management committees mainly composed of local people. Local sites are especially important in areas otherwise deficient in wildlife sites within close proximity.

Appendices A and B provide the full citations for the national and local designations listed and summarised below.

### 5.1.1 *Inner Thames Marshes SSSI*

The Inner Thames Marshes were notified as a SSSI in 1986, and are of significance as they form the largest remaining expanse of wetland bordering the upper reaches of the Thames Estuary. The site is of importance due to its diverse ornithological interest, and in particular for the variety of breeding birds, and the numbers of wintering wildfowl, waders, finches, and birds of prey. This SSSI which is to the southeast of the site, is the nearest, and its western boundary is situated within approximately 700m.

### 5.1.2 *Ingrebourne Marshes SSSI*

This SSSI was notified in 1988, the primary reason for which is that the Ingrebourne Valley supports the largest and one of the most diverse coherent areas of freshwater marshland in Greater London. The southwestern area of the SSSI is in closest proximity to the site, at a distance of approximately 1750m.

### 5.1.3 *Crossness LNR*

This LNR was designated in 2002 and covers an area of 20.3 hectares. Declared by Bexley Council, it is one of the few remaining areas of grazing marsh in London, with important plant, invertebrate and bird communities.

### 5.1.4 *SINC – The River Thames and tidal tributaries*

This SINC is classed as a Site of Metropolitan Importance and was first notified in 1986. The boundary of the site was last changed in 2002. The habitats at the site are running water (fresh and brackish), intertidal mud and shingle, saltmarsh, reed beds, woodland, grassland and vegetated walls. The site is adjacent to this SINC as it is comprised of the River Thames, which is next to the site boundary.

### 5.1.5 *SINC – Wennington, Aveley and Rainham Marshes*

This Site of Metropolitan Importance notified in 1988 and subject to a boundary change in 2002, consists of grazing marsh, reed beds, ditches, intertidal mud and shingle and saltmarsh. The most westerly point of the SINC is within approximately 600m of the site, and to the east.

#### 5.1.6 *SINC – Erith Marshes*

Notified in 1988, this Site of Metropolitan Importance has grazing marsh, ditches and open water habitats, and is approximately 1.5 km from the site and to the southwest.

#### 5.1.7 *SINC – Ingrebourne Valley*

The habitats present at this Site of Metropolitan Importance are river, ditches, reed bed, damp and dry neutral grassland, open water, fen and fen carr, ancient and secondary woodland, scrub and hedges. The southern most extent of this SINC that ranges from northeast of the site to south east, is within approximately 500m.

#### 5.1.8 *SINC – Dagenham Breach and the lower Beam River in Dagenham*

This Site of Borough Importance (Grade I) first notified in 1992, has lake, river, reed bed, tall herbs, scrub and rough grassland habitats present. It is situated to the northwest of the site within approximately 1.5km.

#### 5.1.9 *SINC – Beam Valley South in Dagenham and the Wantz Stream*

This is a Site of Borough Importance (Grade I) and the habitats represented are rivers, wetlands, acid and neutral grassland and scrub. The SINC is to the north by northeast of the site, which is within approximately 1.5km and 2km.

#### 5.1.10 *SINC – Belvedere Dykes*

This Site of Borough Importance (Grade I) was first notified in 1991 and is of importance for its water-filled ditches, reedswamp and neutral grassland. It is located to the southwest of the site, and its most northerly extent is within approximately 750m.

#### 5.1.11 *SINC – Pirelli Factory Nature Area*

Habitats of note at this Site of Borough Importance (Grade I) are open water, marginal fen vegetation, species-rich neutral grassland, ruderal communities, bare earth and scrub. This SINC is situated to the south of the site at a distance of between approximately 1.5km and 2km.

#### 5.1.12 *SINC – Mudlands*

This Site of Borough Importance (Grade I) is approximately 1km to the north of the site, and consists of neutral grassland (semi-improved), tall herb, reed bed, ponds, ditches and scrub habitats.

#### 5.1.13 *SINC – Beam Valley South in Havering*

This site is a Site of Borough Importance (Grade I) and habitat present consists of scrub, hedges, semi-improved neutral grassland, tall herbs, ditches, *Typha* swamp, standing water and river. It is situated approximately 2km to the north of the proposed development site.

#### 5.1.14 *SINC – Lower River Beam and Ford Works Ditches*

Dominated by the lower River Beam and 'Wildlife Valley', this Site of Borough Importance (Grade I) has the following habitats: scrub, neutral grassland, tall herbs, reed swamp, secondary woodland, river, saltmarsh and ruderal. It is situated in relatively close proximity (within approximately 750m) of the proposed site as it extends southwards along the western boundary of the Ford Motor Company compound.

#### 5.1.15 *SINC – Riverside Sewage Treatment Works*

This Site of Borough Importance (Grade II) has areas of native and non-native broad leaved woodland, scrub, neutral grassland (semi-improved), bare artificial habitat, common reed and *Typha* swamp, standing water and water filled ditch. The SINC is located to the northeast of the site and is approximately 1km away.

#### 5.1.16 *SINC – Railside land in Havering*

This Site of Borough Importance (Grade II) is approximately 1.5km to the north of the site, and comprises secondary woodland, scrub, tall herbs, semi-improved neutral grassland, reed beds and ruderal habitat.

### 5.2 **Phase 1 Habitat Survey**

The Phase 1 Habitat Map, *drawing number Jer2943-AV-006* shows the type and spatial distribution of the habitat types found on the site. This map was drawn according to the Joint Nature Conservation Committee Guidelines (Handbook for Phase 1 habitat survey - a technique for environmental audit JNCC 1990).

The site consists of predominately bare ground/hard standing, however, a number of other habitats are present within the southeast corner, namely dense continuous and scattered scrub, semi-improved grassland, tall ruderal, standing water and ephemeral/short perennial.

#### 5.2.1 *Bare ground*

Most of the site consists of hard standing as it is a car compound, and the hard standing surrounds an area of standing water located in the southeast corner of the site.

#### 5.2.2 *Standing Water*

An area of standing water or pond is present in the far southeast of the site adjacent to the site boundary. It has a depth of approximately 0.5m, and has a hardcore base with stone sides and a fence around its perimeter. It is an area of eutrophic standing water as it has a very thick layer of algae on its surface.

#### 5.2.3 *Scrub*

Around the northeast edge of the pond is an area of dense continuous scrub that is dominated by bramble *Rubus fruticosus*. A 'green corridor' exists along the southern boundary of the site parallel to the River Thames and consists in part of dense continuous scrub and scattered scrub, with the dominant species again being bramble.

#### 5.2.4 *Tall ruderal*

Areas of tall ruderal habitat exist along the eastern boundary of the site adjacent to the pond, and around the southeast corner of the pond.

#### 5.2.5 *Ephemeral/short perennial*

A small area of ephemeral or short perennial habitat is to be found in the southeast corner of the site, adjacent to the boundary.

#### 5.2.6 *Semi-improved grassland*

A strip of semi-improved grassland is present along the east and south boundaries of the site, adjacent to areas of tall ruderal and dense, continuous scrub respectively. The semi-improved grassland together with these other habitats provides a 'green corridor' running along the site boundary.

#### 5.2.7 Other habitats of note

The invasive species giant hogweed *Heracleum mantegazzianum* is present within the 'green corridors'. This species is perhaps the largest herb occurring in West Europe and care must be taken when in close proximity to it as it causes skin to become sensitive to sunlight, more specifically, ultra violet light, after contact, and this can result in rashes and blisters.

Giant hogweed is a non-native invasive plant that can come to dominate natural plant communities. Under the Wildlife & Countryside Act 1981 (as amended) it is an offence to "plant or otherwise cause Giant Hogweed to grow" in the wild. This includes spreading the species or transferring polluted ground material from one area to another.

Any Giant Hogweed polluted soil or plant material that is to be discarded will be classed as controlled waste and have a Waste Transfer consent. It should be disposed of in an appropriately licensed landfill site approved for handling such material. It is essential to notify the waste haulier that the waste to be removed contains Giant Hogweed. The landfill site should also be contacted several days before any material containing Giant Hogweed is taken there, in order to allow a suitable area to be prepared for its disposal.

### 5.3 Protected Species Audit

The site and immediate vicinity has limited potential for protected species, however there is potential for a number of protected species within 2km of the site.

#### 5.3.1 Reptiles

There are six protected species of reptile within the UK, namely adder *Vipera berus*, grass snake *Natrix natrix*, smooth snake *Coronella austriaca*, sand lizard *Lacerta agilis*, common or viviparous lizard *Lacerta vivipara* and slow worm *Anguis agilis*. Smooth snake and sand lizard are European Protected Species and are fully protected under Schedule 5 of the Wildlife and

Countryside Act 1981 (as amended). Common lizards, adder, grass snake and slow worm are protected against killing and injuring under Schedule 5 of the Wildlife and Countryside Act 1981.

The site affords some terrestrial habitat along the 'green corridors' that is potentially suitable for reptiles, specifically, common lizard, slow worm and grass snake, and Greenspace Information for Greater London (GIGL) provided records of these species occurring within 2km of the site.

### 5.3.2 *Bats*

There are sixteen species of bat in the UK, all of which are protected by European law through The Conservation (Natural Habitats, &c.) Regulations 1994 (better known as the Habitats Regulations) which implement the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora - better known as the Habitats Directive. Therefore, all bats are listed as 'European protected species'.

Bats are afforded legal protection in the UK by means of The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) which under Schedule 5 Section 9 protects bats from intentional killing, injuring or taking, and protects their roosts in England, Scotland and Wales.

There is no bat roost potential in the silver birch located on the west side of the pond, however, the pond and surrounding scrub, and the vegetated linear features along the site boundary could potentially provide foraging areas for bats. There are records of bats (provided by the London Bat Group through GIGL), including Daubenton's bat *Myotis daubentoni* that like to forage over water bodies, and pipistrelle bats *Pipistrellus* within 2km of the site.

### 5.3.3 *Badgers*

Badgers *Meles meles* and their setts are protected in the UK by their own Act of Parliament, the Protection of Badgers Act 1992 which consolidates all previous legislation including the Badgers Act 1973 (as amended) and the Badgers (Further Protection) Act 1991.

Under the Protection of Badgers Act, it is an offence to wilfully kill, injure, take or attempt to take a badger from the wild and to interfere with a badger sett by (a) damaging a sett or any part of one; (b) destroying a sett; (c)

obstructing access to or any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.

Work that disturbs badgers whilst occupying a sett is illegal without a licence. Badgers could be disturbed by work near the sett even if there is no direct interference or damage to the sett. Therefore, English Nature has guidelines on the types of activity that it considers should be licensed within certain distances of sett entrances. The following, for example, may require a licence:

- using very heavy machinery (generally tracked vehicles) within 30 metres of any entrance to an active sett;
- using lighter machinery (generally wheeled vehicles), particularly for any digging operation, within 20 metres;
- light work such as hand digging or scrub clearance within 10 metres.

The site has limited potential for badgers and no setts or evidence of badger activity were found. Likewise, the results of the desk study and data search carried out by GIGL did not include any records of badger sightings, activity or setts within 2km of the site.

#### 5.3.4 *Great Crested Newts*

Great crested newt *Triturus cristatus* is a European protected species and as such is protected by the Conservation (Natural Habitats & c.) Regulations 1994 which implement the Habitats Directive. With regards to the UK law, the species is afforded protection under Schedule 5, Section 9 (all parts) of the Wildlife and Countryside Act 1981 (as amended).

The site has little or no potential for great crested newts and although a pond is present in the southeast corner of the site, it is not deemed to be suitable habitat for the species during their breeding phase. The water is eutrophic due to the presence of a thick algal layer on its surface and as such is likely to have very low dissolved oxygen levels. Also there are very few aquatic plants, the pond has a concrete base and the sides are constructed of large stones in wire cages, and surrounding the pond is hardstanding which reduces the likelihood of newt movement. In addition, there are no records of great crested newts within 2km of the site.

#### 5.3.5 *Water Vole*

Water vole *Arvicola terrestris* have had legal protection in the UK since 1998 through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(4) only. It is therefore, an offence to damage, destroy or obstruct access to any structure or place that water voles use for shelter or protection; and/or to disturb water voles while they are using such a place.

Evidence of water vole presence and activity such as faeces, latrines and burrows, was not found at the site and the concrete sided, algae covered pond is likely to be unsuitable habitat for the species. The eastern boundary of the site has no potential for water vole, however, the vegetated corridors along the southern site boundary and adjacent to the Thames do provide relatively good riparian habitat for water voles. There is some potential for water voles along and within a ditch to the west of the site, however, it is of sufficient distance from the site that there will be no impact on this area. The data search conducted by GIGL revealed that there are records of water voles within 2km of the site, and the London BAP Species Records map in Appendix C illustrates that they have been recorded to the east and southeast of the site and on the opposite side of the River Thames to the southwest.

#### 5.3.6 Schedule 1 Birds

The black redstart *Phoenicurus ochruros* is a nationally rare species and is given statutory protection in the UK by Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended) which lists birds protected by special penalties at all times, and which prohibits the intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs. It prohibits possession of wild birds (dead or alive) or their eggs. Black redstarts are also listed as a priority species for the London Biodiversity Action Plan, as a Bird of Conservation Concern and a Red Data Book species.

According to information provided by GIGL, there are less than one hundred pairs of black redstarts nesting in Britain with London being the most important locality as their population in the city constitutes between 10% and 30% of the national breeding population. They live along the Thames

corridor and the London BAP Species Records map provided by GIGL in Appendix C shows the known key area for the species, and records. The site falls within this known key area and there are records within 2km, although there were no sightings during the protected species audit.

The results of the data search included records of peregrine *Falco peregrinus* and green sandpiper *Tringa ochropus* within 2km of the site, and both these species are listed as Schedule 1 birds in the Wildlife and Countryside Act 1981 (as amended). There is, however, no habitat potential for these species within the site boundary.

### 5.3.7 Breeding Birds

The site and surrounding area has a potential for breeding birds, and at the time of the site survey being undertaken, there was evidence of a number of bird species establishing territories along the vegetated eastern and southern margins of the site adjacent to the depot and River Thames respectively, including wren *Troglodytes troglodytes*, whitethroat *Sylvia communis*, dunnock *Prunella modularis* and blackbird *Turdus merula*. A magpie *Pica pica* was observed on the site, and wildfowl were seen to fly along the river wall and 'green corridor'. Shelduck *Tadorna tadorna* and herring gull *Larus argentatus* movements were recorded along the southern corridor and back to the Thames, however there was no movement over the site. One male mallard *Anas platyrhynchos* flew from the Thames to the pond on site but once disturbed, returned to the Thames. No birds or nests were seen to be present within the scrub and trees around the pond or on top of lampposts within the site boundary. Wild birds and their nests are protected under the Wildlife and Countryside Act 1981 (as amended), and so likewise, any tree that is holding a nest is protected against damage or disturbance.

The scrub and trees within the 'green corridor' to the east and south may hold nests.

### 5.3.8 Other species

The stag beetle *Lucanus cervus* is Britain's largest terrestrial beetle and is a globally threatened species. It is a 'protected species' and is listed on

Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is also a priority species for both the UK BAP and London BAP, and is listed as vulnerable on the Red Data Book list.

The Thames Valley has been noted as a 'hotspot' for stag beetles and the data search revealed there have been three records of the species within 2km of the site. However, the absence of suitable habitat, in the form of deadwood, at the site results in limited potential for the species being present.

## 6 DISCUSSION

### 6.1 Desk Study

The desk study illustrated the presence of a number of designated sites within a 2km radius of the site, including two SSSI (Sites of Special Scientific Interest), one LNR (Local Nature Reserve) and thirteen SINCs (Sites of Importance for Nature Conservation). The national designations, as well as many of the local designations, are designated predominantly for the importance of the diverse coherent areas of freshwater marshland, and wetland bordering the Thames Estuary, and consequent flora and fauna of interest, particularly waterfowl and wintering wildfowl.

The SINCs that do not fall within the boundaries of the SSSIs are designated due to habitats including freshwater, saltmarsh, reed beds, intertidal mud and shingle, fen and fen carr, grassland and woodland, and for their vegetative interest and the fauna these systems support. Dagenham Breach, for example, is a lake created by storm flooding from the River Thames in the early 18<sup>th</sup> Century, and it has scarce wetland plants growing among the surrounding reeds including sea club-rush *Bolboschoenus maritimus*, false fox-sedge *Carex otrubae*, lesser reed-mace *Typha angustifolia* and common club-rush *Scoenoplectus lacustris*.


Beam Valley South in Dagenham, and the Wantz Stream are visited frequently by snipe on passage and in winter. Large areas of drier grassland (some of it acidic) with scattered hawthorn scrub support breeding skylark, linnet (both of which are UK BAP priority species) and meadow pipit, while tree sparrows are frequent in winter.

### 6.2 Phase 1 Habitat Map

The Phase 1 Habitat Map shows that there are a limited number of habitats and that the vast majority of the site is comprised of a hard standing car compound. The southeast corner of the site has several other habitat types present, as follows: standing water; dense continuous scrub; scattered scrub; tall ruderal; semi-improved grassland and ephemeral/short perennial. There were no specific habitats that would need further National Vegetation Classification (NVC) surveys.

The linear vegetated margins or 'green corridors' along the south and east stretches of the site boundary, consisting of scrub, tall ruderal and semi-improved grassland habitats, and the scrub around the east side of the area of standing water are the most valuable features for ecology within the site and may be of importance for breeding birds, bats, reptiles and invertebrate species.

### 6.3 Protected Species

With respect to the protected species audit, the site was evaluated for potential habitat for badger, bat, reptiles, birds, great crested newts and water vole. 

The dense continuous scrub and scattered scrub along the east and south edges of the site offer potential nesting habitat for breeding birds, for example, dunnock and whitethroat.

The corridors comprised of scrub, tall ruderal, semi-improved grassland and ephemeral/short perennial habitats along the south and east margins of the site, adjacent to the expanse of hard standing and the bank of the River Thames. This provides potentially suitable conditions for some reptile species, although no reptiles were observed whilst undertaking the site visit.

The aforementioned 'green corridors' and pond with surrounding scrub could potentially act as foraging grounds for bats, with the former providing linear features for flightlines.

The vegetated south and east boundaries of the site have no ditches and are further than 5m from the riparian habitat of the banks of the River Thames, and as such have limited potential for water voles. In addition, no signs of presence were detected during the protected species audit.

The presence of great crested newt at the site is deemed unlikely as the area of standing water within concrete confines does not provide favourable habitat or likely conditions for the species to be present. The dense algal layer on the pond is considered to render it unsuitable for utilisation by newts and is probably indicative of poor water quality. Also, there is limited suitable terrestrial habitat, bar the vegetated corridors, as required for the terrestrial phase in the great crested newt life cycle.

## 7 CONCLUSIONS/RECOMMENDATIONS

The extended Phase 1 Habitat Survey shows that the development will involve the building of a sustainable energy facility on an area of hard standing. A delivery conveyor is proposed and if approved, would run west from the waste treatment plant on Frog Island, along the southwest facing boundary of the adjacent depot and into the site via the southeast corner and would then run northwards past the east side of the pond into the proposed compound.

The construction of the delivery conveyor may necessitate the removal (subject to design) of a section of dense continuous scrub, tall ruderal, ephemeral/short perennial and semi-improved grassland habitats in the southeast corner of the site, as it would run through the 'green corridor' where the east and south vegetated margins of the site meet. Potentially, removal of the scrub around the northeast edge of the pond and vegetation from the 'green corridor' along the eastern site boundary may also be required. The removal of vegetation from the southeast corner of the site would not break the linear character of the north-south or east-west corridor. Fauna will still be able to move through the corridor and forage within the vegetation. However, it will be necessary to take measures to minimise disturbance or harm to any protected species that may use the proposed development site.

Inner Thames Marshes SSSI, Ingrebourne Marshes SSSI and Crossness LNR are within 2km of the site as are thirteen SINC's, however, the development footprint will not encroach into any of these designated sites although the River Thames SINC is within very close proximity as it is adjacent to the site. Therefore, the proposed development and the relatively limited impact that is predicted to take place on the surrounding area, should result in the integrity of these designations being maintained, and not compromised. It is believed that the development will not adversely affect the River Thames.

The vegetated areas may be used by foraging bats. The section planned for removal does not hold potential for bat roosts and therefore a licence will not be required.

The potential for breeding birds in the area is reasonably high, and as such, it is preferable that the removal of scrub or felling of scattered trees present within the southeast corner of the site, and which may hold nests that are being used during the breeding season, is undertaken outside of this season which runs from the end of March until the middle of July. However, if this proves to be impossible, it will be necessary to inspect any areas of scrub to be cleared or trees to be felled, and only those plants or trees not holding nests will be permitted for removal, in accordance with the Wildlife and Countryside Act 1981 (as amended).

Consultation with English Nature may be required in order to address the potential issue of impact on bird species, and to coordinate the most appropriate measures to minimise impact caused to birds, during and after the development phase. These species include wildfowl, which have been seen to fly along the river and green corridors. This approach is especially important as the River Thames, which is next to the site, is of ornithological interest, amongst other things.

The vegetated 'corridor' where the conveyor line is planned to cross, holds some potential for reptiles, however, the section to be cleared is very small. The clearance methodology will include the careful taking down of trees and strimming, to ensure that reptiles are not killed or injured. There is ample habitat in all directions for the movement of reptiles. Any work should be carried out during the active season, which runs from mid-February until September/October.

## **7.1 Recommendations**

Therefore the recommendations subject to agreement with English Nature, are as follows:

- There is high potential for breeding birds in the area, consequently it is preferable to clear scrub and fell trees outside of the breeding season, which runs from the end of March until the middle of July. However, if this is not possible, any areas of scrub or trees to be felled will need to be inspected for nests and only those plants and trees not holding nests will be permitted for removal, as any tree

holding a nest is protected against damage or disturbance under the Wildlife and Countryside Act 1981 (as amended).

- Careful clearance of the crossing point of the 'green corridor' section in order to prevent killing or injuring of reptiles.

## **DRAWINGS**

## **APPENDICES**

**Appendix A**  
National Designations Citations

**Appendix B**  
Local Designations Map and Citations

**Appendix C**  
Protected and Notable Species Map and Records

**Appendix D**  
Site Photographs

**Appendix E**  
Map Sheet Record

**Appendix F**  
Target Notes