

Mount Vernon Southern Car Parks

Preliminary Ecological Appraisal Report

The Hillingdon Hospitals Trust

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Quality information

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Executive Summary

Site Details	This Preliminary Ecological Appraisal Report (PEAR) has been prepared by AECOM Ltd. on behalf of the Hillingdon Hospitals NHS Foundation Trust (the Client) to inform a planning application for works required to bring two existing but currently disused car parks on the south-east of the Mount Vernon Hospital back into use. The Site consists a chapel surrounded by mature trees and managed grassland. There is a car park south of the chapel and overflow car park east of the chapel. There is a small area of broadleaved woodland at the edge of the overflow car park, also dense scrub and introduced shrub on the edges of the car parks. The Site is shown in Figure 1 within Appendix A.
Scheme Details	The application boundary encompasses two existing asphalt surfaced car parks in the south-east corner of the site. It is proposed to install lighting and CCTV at these car parks to make them safe for future use. Some vegetation clearance would be required to prune and crown lift tree branches.
Ecological Features that may be affected by the Scheme	The chapel building and woodland had suitability for roosting bats. The woodland and scrub had suitability for nesting birds. The woodland and scrub edges had suitability for reptiles as well as hedgehog, fox and badger.
Recommendations for further survey and assessment	A Preliminary Roost Assessment (PRA) survey is required for the chapel and woodland in order to assign a roost suitability category to determine recommendations for presence / absence surveys during the bat activity season (May-August). The woodland, scrub and introduced shrub need to be surveyed for invasive non-native plant species during the botanical growing season (May-September).
Recommendations for Mitigation	• Potential indirect impacts on adjacent habitats including woodland will be avoided by preparing and implementing a CEMP (or similar document) detailing measures to control dust deposition, pollution/spillage, noise, vibration or lighting pollution during construction. • Scrub clearance will be minimised and any habitat lost should be replaced through compensatory planting to ensure no net loss of biodiversity. • Vegetation clearance should take place outside the main nesting bird season (March and August inclusive) but if it is deemed necessary to remove vegetation within the nesting bird season then a check for nests should be undertaken by a suitably qualified ecologist prior to commencement of works. • If any trees with suitability for roosting bats will be impacted by the Scheme, they should be inspected by a bat licenced ecologist prior to the start of works. If a bat roost is found a European Protected Species Mitigation Licence (EPSML) from Natural England may be required. • Measures to prevent light spill should be built into the design to avoid impacts on bats such as: – fitting lights with accessories such as baffles hoods or louvres to minimise light spill; – using rear shields to stop back-light spilling onto the woodland and scrub habitats. – using downward directional lighting on short columns; and – where possible, motion sensors or short-timers should be used. • All deep holes and trenches should be covered overnight and/or the provision of planked escape routes for any wildlife that may fall in. In addition, any liquids held on-site will be stored in a secure lock-up. Hoarding around the perimeter of the site will also minimise the likelihood of any wild mammals gaining access to the site.
Opportunities for Biodiversity Enhancements	The woodland and scrub should be enhanced by scrub invasion management and leaving log piles and brash piles in situ for biodiversity. Soft landscaping should be enhanced by landscape planting for biodiversity. A landscape plan and planting scheme should be produced and reviewed by an ecologist prior to finalisation.

1. Introduction

This Preliminary Ecological Appraisal Report (PEAR) has been prepared by AECOM Ltd. on behalf of the Hillingdon Hospitals NHS Foundation Trust (the Client) to inform a planning application for works required to bring two disused car parks on the south east of the Mount Vernon Hospital back into use.

1.1 Site Location

Mount Vernon Hospital is located at Rickmansworth Road in the London Borough of Hillingdon (HA6 2RN). The Site is centred on grid reference TQ 07870 91777.

The application boundary encompasses two existing surface car parks in the south-east corner of the site. The site layout is shown below.

Scheme Red Line Boundary



Source: Mott McDonald (2021) Mount Vernon Hospital Car Park Application Red Line Boundary Existing Arrangement
100151MVH-MMD-00-XX-DR-C-0008

1.2 The Scheme

The existing Mount Vernon Hospital South overflow and Chapel car parks have been identified to be re-opened to provide additional car park spaces for the Hillingdon Hospital decant services. The Trust has advised that lighting and CCTV coverage are required in these two car parks for staff safety. The works will involve ground investigation, strip out, disconnection and removal works¹ and erection of additional lighting columns and new CCTV units.

1.3 Purpose

This PEAR was commissioned to identify whether there are known or potential ecological receptors (defined as nature conservation designations and protected or notable species or habitats) that may contain or influence the design and implications of the Scheme. The approach applied when undertaking this PEAR accords with the

¹ AECOM (2021) Mount Vernon Hospital Car Park Hillingdon Hospital Decant - Redevelopment Works Lighting and CCTV Specification.

Guidelines for Preliminary Ecological Appraisal, Second Edition, published by the Chartered Institute of Ecology and Ecological Management (CIEEM, 2017²).

In order to deliver the PEAR, a desk study and an extended Phase 1 Habitat Survey was undertaken by a suitably qualified ecologist.

The purpose of the PEAR was to:

- identify and categorise all habitats present within the Site and any areas immediately outside of the Site where there may be potential for direct or indirect effects (the zone of influence) as a result of the Scheme;
- carry out an appraisal of the potential of the habitats recorded to support protected or notable species of fauna and flora;
- provide advice on any potential ecological constraints and opportunities within the Site and its zone of influence, including the identification (where relevant) of any requirements for follow-up habitat and species surveys and/or requirements for ecological mitigation; and provide a map showing the location of the identified ecological receptors or relevance; and
- make recommendations such that the Scheme will achieve a net gain in biodiversity.

This PEAR is intended for advice in respect of Scheme design, site layout and / or site investigation. The report identifies the scope of further ecological surveys. High level recommendations are made to inform options for the avoidance, mitigation or compensation of the potential impacts of the Scheme (where known) on the identified ecological receptors, and of potential enhancements to biodiversity and ecosystem services.

1.4 Quality Assurance

All AECOM ecologists follow the Chartered Institute of Ecology and Environmental Management (CIEEM) code of professional conduct when undertaking ecological work and many of them are Full Members. They are appropriately qualified and will conduct their work with all reasonable skill and care. Many senior ecologists are Chartered Environmentalists and Ecologists.

² CIEEM, 2019. Advice Note on the Lifespan of Ecological Reports and Surveys. April 2019

2. Ecological baseline

The following sections detail the results of the desk and field-based studies undertaken to inform this PEAR. Where necessary, recommendations for mitigation measures to protect known IEFs, or further surveys to determine the presence or absence of likely IEFs, are provided.

With regard to background data, recent records were those no older than 10 years from the date of the desk study. Records outside of this period are historical and have only been reported where more recent records for a feature do not exist. Any exceptions to this are detailed in the appropriate sections below.

2.1 Sites Designated for Nature Conservation

2.1.1 Desk Study

2.1.1.1 Sites Statutorily Designated for their Biodiversity Value

Based on the methods given in Appendix B of this report, the desk study identified five sites statutorily designated for their nature conservation value or ancient status within 5 km of the red line boundary of the Site. There are no international designations within 5 km of the Site. There are two Sites of Special Scientific Interest (SSSIs), two Local Nature Reserves (LNRs) and one National Nature Reserve (NNR) within 5 km of the boundary of the Site. These are shown below in Table 1 and are listed with the closest sites in ascending order of distance. There were no designated sites within the boundary of the Site.

Table 1. Sites Statutorily Designated for their Biodiversity Value

Designated Site Name	Reason for Designation	Distance from Site
Batchworth Heath Local Nature Reserve (LNR) (3.97ha)	Areas of heathland and woodland as well as water bodies.	0.2 km north. Separated by roads.
Ruslip Woods Site of Special Scientific Interest (SSSI) (Package 8) (11.96ha)	The closer parcel of Ruslip Woods (Package 8) is a block of semi-natural broadleaved woodland with area of yew (<i>Taxus</i>) understory. Instances of the invasive cherry laurel (<i>Prunus laurocerasus</i>) and variegated yellow archangel (<i>Lamium galeobdolon argentatum</i>) are also present within the woodland.	0.7 km south. Separated by roads and housing.
Ruslip Woods National Nature Reserve (NNR) (295.48ha)	The largest block of ancient, semi-natural woodland in Greater London and include one of the most extensive oak (<i>Quercus robur</i>) and hornbeam (<i>Carpinus betulus</i>) coppice woods in southeast England. The site also includes acid and neutral grassland, ponds, streams and marshland.	1.2 km south. Separated by roads and housing.
Ruslip Woods SSSI (Package 5) (67.3ha)	A group of Ancient Woodlands on the north west outskirts of London. Collectively, these woods form one of the most extensive areas of broadleaved woodland remaining in the London area. A further aspect of special note is the presence of watercourses and damp flushes in the woods. Wetland areas within woodland are an important feature which often support a high diversity of plants and invertebrates. A notable feature is the occurrence of patches of the locally scarce cow-wheat (<i>Melampyrum arvense</i>) in Park Wood. There are also plants typical of sunny places on acid soils scattered through the woods, in gaps and path edges.	1.2 km south-south east.
Withey Beds LNR (7.47ha)	Withey bed is an old English term used to describe the growing of different species of willow (<i>Salix</i> species.) for coppicing and is one of the few remaining wetlands in Hertfordshire. It is particularly important as it supports a wide range of habitats including wet woodland, marsh, drier grassland and open ditches as well as the River Colne.	1.8 km north.

2.1.1.2 Sites Non-statutorily Designated for their Biodiversity Value

Table 2 details the non-statutory nature conservations designations identified from GiGL, HERC and the London Borough of Hillingdon policy map (adopted version 2020), using methods as described in Appendix B of this report. The search included non-statutory designations within 1 km such as Local Wildlife Sites (LWS) sometimes

referred to as Sites of Importance for Nature Conservation (SINCs). These are recognised by the Greater London Authority and London borough councils as important wildlife sites.

There are three tiers of such sites:

- Sites of Metropolitan Importance (SMINC);
- Sites of Borough Importance (Borough Grade I and Borough Grade II) (SBINC); and
- Sites of Local Importance (SLINC).

The designations are listed in descending order of importance for each designation, with those closest to the Site listed first.

Table 2. Non-Statutory Designations in the Borough of Hillingdon within 2 km of the Site

Designated Site Name	Reason for Designation	Distance from Site
Sites of Borough Grade I Importance		
Bishop's Wood (1.55 ha)	This small wood, dominated by pedunculate oak (<i>Quercus robur</i>) and hazel (<i>Corylus avellana</i>), lies between White Hill and Mount Vernon Hospital. Silver birch (<i>Betula pendula</i>) and beech (<i>Fagus sylvatica</i>) are common in the wood, along with occasional downy birch (<i>Betula pubescens</i>). Holly (<i>Ilex aquifolium</i>) is locally abundant.	0.25 km north west Separated by roads and buildings.
Shepherd's Hill Woods and Field (84.82ha)	A large mosaic of fields and small woods with thick inter-connecting hedges, creating a distinctly rural feel. The woodland canopies are generally dominated by pedunculate oak (<i>Quercus robur</i>), ash (<i>Fraxinus excelsior</i>) and hornbeam (<i>Carpinus betulus</i>) over hazel (<i>Corylus avellana</i>), field maple (<i>Acer campestre</i>), hawthorn (<i>Crataegus monogyna</i>) and midland hawthorn (<i>C. laevigata</i>). Locally scarce species such as wild service-tree (<i>Sorbus torminalis</i>) are present in Claypits Wood and Furze Field, and buckthorn (<i>Rhamnus cathartica</i>) in Ashain Spring. Introduced species including rhododendron (<i>Rhododendron ponticum</i>), sycamore (<i>Acer pseudoplatanus</i>) and bamboo are abundant in some woods. The best example of a species-rich sward is a horse-grazed field lying adjacent to the 'green lane' section of Jackets Lane, which contains devil's-bit scabious (<i>Succisa pratensis</i>), tormentil (<i>Potentilla erecta</i>) and meadowsweet (<i>Filipendula ulmaria</i>).	0.35 km south west. Connectivity via hedgerows. (small section sharing field border with wider hospital campus)
Kewferry Roughs (3.89ha)	Two formerly grazed meadows which have retained good habitat quality in spite of scrub encroachment. Agrimony (<i>Agrimonia eupatoria</i>) is common here, along with common knapweed (<i>Centaurea nigra</i>) and bird's-foot-trefoil (<i>Lotus corniculatus</i>). Together these may form a dominant sward in places.	0.4 km north. Separated by roads.
Ruislip's Wood and Poor's Field	(Also designated as an NNR and SSSI –) The largest block of ancient woodland in London, with adjacent areas of acid grassland, heathland and wetlands. The woodland, which is divided into Park Wood, Copse Wood, Mad Bess Wood and Bayhurst Wood, is varied but predominantly consists of old coppice-with-standards and is particularly interesting for the occurrence of both pedunculate and sessile oaks. The avifauna of the site is diverse, with breeding sparrowhawk, tawny owl and occasionally woodcock and wood warbler. There is also an important invertebrate fauna including several nationally rare and scarce species. One of London's most important sites for specially-protected bats (with at least nine species recorded) and reptiles. Most of the site is a National Nature Reserve.	0.8 km south. Separated by roads and housing.
Haste Hill Golf Course, Northwood Golf Course and Northwood Park (12.5ha)	These two golf courses, close to Ruislip Woods National Nature Reserve, contain numerous small areas of valuable wildlife habitat. As with many pay-and-play golf courses, the 'roughs' have been largely removed with the aim of speeding up the game. Nevertheless, small woods and areas of species-rich grassland occur at the edges and as 'islands' interspersed among the close-mown fairways. Small areas of acid grassland occur on both courses. Characteristic flora includes heath bedstraw (<i>Gallium saxatile</i>), sheep's sorrel (<i>Rumex acetosella</i>), mouse-ear hawkweed (<i>Pilosella officinarum</i>) and, on Northwood Golf Course, occasional heather (<i>Calluna vulgaris</i>).	1.5 km south east.
Sites of Borough Grade II Importance		
Mount Vernon (0.94 ha)	A linear area consisting the following habitats: scattered trees, scrub, native hedge, bare artificial habitat, neutral grassland (semi-improved), rough land and water-filled ditches*	0.4 km south** **The border for this site is assumed from London Borough of Hillingdon Local
*The habitat descriptions are taken from London Borough of Hillingdon Site Allocations and Designations Local Plan Part 2 (2015)		

Designated Site Name	Reason for Designation	Distance from Site
		<i>Plan Part 2- Policies Map Adopted Version (2020)</i>
Gravel Pit, Northwood (5.9ha)	These heavily wooded gravel diggings lie on the junction of two main roads, and the pathways through the woods are heavily used by the public.	0.5 km south east. Separated by roads and housing.
Haste Hill Golf Course, Northwood Golf Course and Northwood Cemetery (84.83ha)	Area with native broadleaved woodland, scattered trees, vegetated walls, tombstones etc, neutral grassland (semi-improved), amenity grassland, rough land, ditches.	0.8 km south east.
Northwood Railway Cutting (3.18ha)	This wooded railway cutting extends along the Metropolitan line northwards beyond the London boundary into Hertfordshire. Wide banks of both sides of the railway support areas of regenerating woodland, scrub and rough grassland. Dominant woodland trees include small pedunculate oaks (<i>Quercus robur</i>) and ash (<i>Fraxinus excelsior</i>), interspersed with a few mature standards. There is an understorey of common hawthorn (<i>Crataegus monogyna</i>), elder (<i>Sambucus nigra</i>) and blackthorn (<i>Prunus spinosa</i>) with occasional dogwood (<i>Cornus sanguinea</i>).	1.3 km east.
White Heath Farm (52.59ha)	This is a farmland landscape consisting mainly of pastures, arable fields, copses and hedgerows, and has managed to retain the rural character of the landscape. The nature conservation interest is scattered through the landscape, and some large areas of low wildlife value have been omitted from the site. Much of the site is a mixture of improved and semi-improved, horse-grazed pastures, some of which have been ungrazed for a while. Some fields are dominated by a mix of perennial rye-grass (<i>Lolium perenne</i>) and bents (<i>Agrostis</i> spp.) whereas false oat-grass (<i>Arrhenatherum elatius</i>) and cock's-foot (<i>Dactylis glomerata</i>) are dominant in others. A number of small copses punctuate the landscape, including Cooks Wood, Watts Common and a shaw (a narrow belt of woodland) alongside a stream. They are generally dominated by pedunculate oak and ash or beech, depending on the underlying substrate.	1.7 km west.
Shepherd's Hill House (1.37ha)	The grounds of this field study centre contain scattered native trees and shrubs including frequent pedunculate oak (<i>Quercus robur</i>), and occasional ash (<i>Fraxinus excelsior</i>), hornbeam (<i>Carpinus betulus</i>) and hazel (<i>Corylus avellana</i>). Introduced species including abundant cherry laurel (<i>Prunus laurocerasus</i>) and occasional rhododendron (<i>Rhododendron ponticum</i>) and snowberry (<i>Symphoricarpos albus</i>) indicate its earlier role as a large landscaped garden.	1.7 km west.

Table 3 details the non-statutory nature conservations designations identified from the Hertfordshire Biological Records Centre (HERC) within 2 km of the Site. Each Local Wildlife Site (LWS) is listed with those closest to the Site listed first.

Table 3. Non-Statutory Designated Sites in Hertfordshire within 2 km of the Site

Designated Site Name	Reason for Designation	Distance from Site
White Hill Wood (4.9ha)	High canopy semi-natural broadleaf woodland supporting ancient woodland indicators. There is an area of Beech (<i>Fagus sylvatica</i>) in the west. In the east the woodland is composed of predominantly Pedunculate Oak (<i>Quercus robur</i>), Silver Birch (<i>Betula pendula</i>) and Ash (<i>Fraxinus excelsior</i>). The ground flora is mainly Bramble (<i>Rubus fruticosus</i> aggregate), Bracken (<i>Pteridium aquilinum</i>) and Ivy (<i>Hedera helix</i>) with occasional Bluebell (<i>Hyacinthoides non-scripta</i>). There is an area of damp acidic grass/heath and mixed scrub supporting birch (<i>Betula</i> spp.), willow (<i>Salix</i> spp.) and Gorse (<i>Ulex europaeus</i>).	0.25 km west of the Site, on the boundary of the wider hospital campus.
Bishop's Wood (40.7ha)	A large area of ancient acid woodland situated on a variety geology, which supports a very rich and diverse flora. The site has been extensively replanted with conifers and broadleaved species, but there are relic stands of ancient woodland consisting predominantly of hazel (<i>Corylus avellana</i>) coppice with pedunculate oak (<i>Quercus robur</i>). Acid grassland/heathland communities are present, particularly within the glades, with a varied heathland type flora recorded including heather (<i>Calluna vulgaris</i>); which suggests that historically part of the wood may have been open and heathy in character.	Designated Site is located 0.4 km north east.

Designated Site Name	Reason for Designation	Distance from Site
Batchworth Heath Common (1.76ha)	A small ancient common situated on glacial sands, gravel and London Clay of interest principally for its unimproved acid grassland, patches of marshy grassland and pond; complemented by areas of neutral grassland, scrub and woodland. Species recorded in the acid grassland include the grasses common bent (<i>Agrostis capillaris</i>), red fescue (<i>Festuca rubra</i>) and sweet vernal-grass (<i>Anthoxanthum odoratum</i>) and the herbs lady's bedstraw (<i>Galium verum</i>), bird's-foot trefoil (<i>Lotus corniculatus</i>), and meadow saxifrage (<i>Saxifraga granulata</i>).	Designated Site is located 0.5 km north.
Moor Park Golf Course (129.55ha)	Large area of old parkland now used as a golf course. In addition to amenity grassland, the area supports a range of habitats. These include unimproved species-rich neutral grassland in the north, acid grassland with remnant patches of Heather (<i>Calluna vulgaris</i>) and Gorse (<i>Ulex europaeus</i>) scrub in the south.	Designated Site is located 0.7 km to the northeast.
Long Spring (6.62ha)	Ancient semi-natural broadleaf woodland dominated by Pedunculate Oak (<i>Quercus robur</i>), Ash (<i>Fraxinus excelsior</i>) and Silver Birch (<i>Betula pendula</i>) with Hazel (<i>Corylus avellana</i>) coppice. The ground flora supports a diverse flora including numerous woodland indicators, mainly Bluebell (<i>Hyacinthoides non-scripta</i>) with species such as Dog's Mercury (<i>Mercurialis perennis</i>), Wood Anemone (<i>Anemone nemorosa</i>), Remote Sedge (<i>Carex remota</i>) also present.	Designated Site is located 1.25 km to the northwest.
Sandy Lodge Golf Course (58.2ha)	Golf course supporting a mosaic of habitats including semi-improved acid grassland, unimproved acid grassland/heath, a pond, pits, patches of scrub and broadleaf woodland.	Designated Site is located 1.45 km to the north east.
Hampton Hall Meadows (25.97ha)	Mosaic of old marshy semi- or unimproved grasslands along the Colne Valley with extensive areas of wetter swamp/fen vegetation, botanically rich drainage ditches and an area of wet woodland. The sward includes several indicators species including Bird's-foot Trefoil (<i>Lotus corniculatus</i>), Common Sorrel (<i>Rumex acetosa</i>), Greater Bird's-foot Trefoil (<i>Lotus pedunculatus</i>) and Reed Canary-grass (<i>Phalaris arundinacea</i>).	Designated Site is located 2 km to north-northwest.
Withey Beds (7.6ha)	Alluvial site in the River Colne valley that supports a range of habitats including tall herb alluvial swamp, damp grassland, some dry grassland areas, scrub, scattered mature trees, wet woodland and a wide drainage ditch. The wet woodland, developed on the former withey beds, is dominated by Crack Willow (<i>Salix fragilis</i>) with Osier (<i>S. viminalis</i>) and other willows (<i>Salix</i> spp.).	Designated Site is located 2 km to the north-north east.
Tolpits Lane Gravel Pits (8.21ha)	Lakes formed from gravel extraction with relatively mature marginal vegetation around their edge, in places supporting extensive beds of reeds. The lakes are lined with Alder (<i>Alnus glutinosa</i>) and willows (<i>Salix</i> spp.). A dismantled railway crosses the site with tall swampy habitats on either side.	Designated Site is located 2.25 km to the north.

A difference of the location SINC has been identified between GiGL (last updated between 2004-2007) and the London Borough of Hillingdon Local Plan Part 2- Policies Map Adopted Version (2020) and Site Allocations and Designations Local Plan Part 2 (2015).

This difference is of importance for one non-statutory site ("Fields and Hedgerows South of Mount Vernon" Borough Grade II SINC). It appears in the GiGL desk study adjacent to the Site, however the London Borough of Hillingdon Local Plan Part 2- Policies Map Adopted Version (2020) and Site Allocations and Designations Local Plan Part 2 (2015) has the SINC boundary further south of the Site. Table 2 shows the SINC from the policy map (2020) as it has been considered the most up to date data with regards SINC since the review of SINC done by the Council in 2015.

2.1.2 Constraints and Recommendations

There is unlikely to be any potential negative impacts on the statutorily designated sites within 5 km or non-statutorily designated sites within 2 km as there are a lack of pathways to the Scheme.

No significant impacts on the designated sites by the increase of recreational pressure are expected due to distance from the Site and nature of the Proposed Development. Note that a number of non-statutorily designated sites are in proximity to the Proposed Development but are separated by distance and buildings and other habitats in-between. Indirect impacts from construction (dust deposition, noise, etc) or operation (increased lighting) are therefore not expected given the scale of the proposals.

2.2 Habitats

2.2.1 Desk Study

There was ancient woodland and woodland listed on the National Forest Inventory within 500m of the Site. These blocks of woodland are listed in Table 4 in ascending order distance away from the Site.

Table 4. Blocks of Woodland within 500m of the Site

Habitat Type	Description	Relationship to Site
Ancient Woodland		
Ancient Replanted Woodland (4 ha)	Woodland listed on the National Forest Inventory 2014	300m west
Ancient Woodland (4 ha)	Woodland listed on the National Forest Inventory 2014	250m south west
Notable Habitats		
Deciduous Woodland (40 ha)	Woodland listed on the National Forest Inventory 2014	100m north
Deciduous Woodland (11 ha)	Woodland listed on the National Forest Inventory 2014	Woodland adjacent to the southern boundary
Deciduous Woodland (9 ha)	Woodland listed on the National Forest Inventory 2014	300m north

2.2.2 Field Survey

The Site consists of a building (chapel) surrounded by mature trees and managed grassland. There is a car park south of the chapel and overflow car park east of the chapel. There is a small area of broadleaved woodland at the edge of the overflow car park, also dense scrub and introduced shrub on the edges of the car park.

Summary descriptions of the habitats within the Site are provided below in Table 5 and shown on Figure 1 in Appendix A, habitats are listed by area in Table 6 and photographs of habitats are provided in Table 7.

Table 5. Descriptions of Habitats Present on Site

Habitat	Brief Description
Hard Standing	Overflow car parking area at the chapel, behind chapel and internal roads/footpaths.
Mixed parkland / scattered trees	A block of parkland was present east of the chapel. The ground flora was dominated by perennial rye grass with a single stand of Pampas grass (<i>Cortaderia selloana</i>) present within the habitat. The dominant trees within this habitat were pedunculate oak with occasional Lawson's cypress (<i>Chamaecyparis lawsoniana</i>) and rare specimens of European yew (<i>Taxus baccata</i>), crab apple (<i>Malus sylvestris</i>) and Norway spruce (<i>Picea abies</i>).
Dense / continuous scrub	The block of scrub was dominated by bramble (<i>Rubus fruticosus</i> aggregate) with frequent emergent specimens of pedunculate oak (<i>Quercus robur</i>) and occasional instances of hawthorn (<i>Crataegus monogyna</i>).
Broadleaved woodland	The block of broadleaved woodland west of the car park was also dominated by pedunculate oak with frequent ash (<i>Fraxinus excelsior</i>) and blackthorn (<i>Prunus spinosa</i>) present with occasional instances of willow (<i>Salix</i> species) also present. The understory contained occasional dog rose (<i>Rosa canina</i>) and butterfly bush (<i>Buddleia davidii</i>) with rare examples of pendulous sedge (<i>Carex pendula</i>) and sycamore (<i>Acer pseudoplatanus</i>) saplings also present.
Buildings	A chapel is located in the centre of the site.
Amenity Grassland	The block of amenity grassland at the chapel consisted of perennial rye grass (<i>Lolium perenne</i>) with occasional instances of dandelion (<i>Taraxacum officinale</i>), greater plantain (<i>Plantago major</i>) and rare instances of rosebay willowherb (<i>Epilobium angustifolium</i>) and dwarf mallow (<i>Malva neglecta</i>).
Introduced shrub	The introduced shrub was dominated by a rose of Sharon (<i>Hypericum calycinum</i>) hedge with abundant firethorn (<i>Pyracantha angustifolium</i>) and occasional Atlantic ivy (<i>Hedera atlantica</i>) and cherry laurel (<i>Prunus laurocerasus</i>) also present within this area.
Hedge with trees	A hedge with trees was on the edge of the carpark bordering the dense scrub. It was dominated by hawthorn with occasional ash trees.

Table 6. Habitats on Site listed by area (in m²)

Habitat	Area (in m ²)	% of Site
Hard Standing	4,778	49
Mixed parkland / scattered trees	2,336	24
Dense / continuous scrub	1,108	11
Broadleaved Woodland - Semi-natural	618	6
Building	361	4
Cultivated/ Disturbed Land - Amenity Grassland	332	3
Introduced shrub	139	1
Total	9,673m²	100%

Table 7. Photographs of Habitats**Photo 1. Chapel and car park****Photo 2. Mixed parkland at chapel****Photo 3. Dense scrub and footpath by car park****Photo 4. Woodland at edge of car park****Photo 5. Dense scrub at chapel**

2.2.3 Constraints and Recommendations

There is woodland habitat on the Site, west of the overflow car park. Larger blocks of woodland are adjacent within the wider hospital site.

It is recommended to retain the woodland habitat within the Site. It is understood that works will remain within the hardstanding only. There may be some vegetation clearance required to trim back scrub or overhanging branches. Trees are a material constraint in the planning process; therefore an Arboriculture Impact Assessment (AIA) should be prepared for the Site to inform planning application and recommendations should be followed.

For the purposes of biodiversity net gain, the area of woodland, scrub and introduced shrub should remain the same before and after the Scheme so that there is, minimally, no net loss.

Potential indirect impacts on the woodland and adjacent habitats will be avoided by preparing and implementing a CEMP (or similar) detailing measures to control dust deposition, pollution/spillage, noise, vibration or lighting pollution during construction.

2.3 Great Crested Newt

2.3.1 Desk Study

There was one record of great crested newt (*Triturus cristatus*) 1 km north of the Site from 2014.

A European Protected Species Mitigation Licence was granted for damage to a breeding place and destruction of a resting place, 1.1 km north of the Site in 2014 (2014-2813-EPS-MIT).

2.3.2 Field Survey

There were three waterbodies further than 250m of the Site's boundaries (a small pond and a large pond to the south and a ditch to the north) that may have suitability to support great crested newt.

The woodland offered suitable terrestrial habitat for great crested newt.

2.3.3 Constraints and Recommendations

Although habitat on and adjacent to the Site is suitable for terrestrial great crested newt, due to the small size of the Site and the intention to refurbish the car park, the scale of risk to great crested newt and its habitat, is low.

Where vegetation clearance is required, it is recommended this would be carried out under ecological supervision following an agreed Ecological Method Statement to mitigate for this risk. Note that if a great crested newt is found, works will need to stop and an ecologist consulted. Works may require a Natural England mitigation licence to resume/

2.4 Bats

2.4.1 Desk Study

The desk study returned records of eight species of bat within 2 km of the Site. These comprised brown long-eared bat (*Plecotus auritus*), common pipistrelle (*Pipistrellus*), Leisler's bat (*Nyctalus leisleri*), Natterer's (*Myotis nattereri*), Nathusius's pipistrelle (*Pipistrellus nathusii*), noctule (*Nyctalus noctula*) and soprano pipistrelle (*Pipistrellus pygmaeus*).

A European Protected Species Mitigation Licence was granted for the damage and destruction of a soprano pipistrelle resting place, 0.85 km north of the site in 2016 (2015-18526-EPS-MIT).

2.4.2 Field survey

The chapel and trees had suitability to support roosting bats due to suitable features in the trees or in the buildings' structure, such as slate and clay pitched roofs, wooden panelling and age of buildings or features such as woodpecker holes, slit branches or lifted bark in trees.

The Site was small in size but was connected to wider commuting and foraging habitat within the landscape.

2.4.3 Constraints and Recommendations

If the buildings or trees are to be impacted, a dedicated Preliminary Roost Assessment survey of the affected trees / buildings (church and trees on the woodland edge) is recommended to categorise the suitability to support roosting bats as either Low, Moderate or High. This applies primarily to trees due to pruning works but also applies to the woodland boundaries and building to be subject to increased artificial lighting levels.

The results of this assessment will determine the survey effort required for nocturnal emergence (dusk) or re-entry (dawn) surveys, which will be required in the bat active season (May to August) to investigate the presence / absence of roosting bats.

Further surveys will confirm the requirement for a Natural England European Protected Species (EPS) mitigation licence if bats are present and/or any other requirements for mitigation.

If suitable trees will be subject to pruning or removal then they should be inspected by a bat licenced ecologist prior to the start of works. If a bat is found a European Protected Species Mitigation Licence (EPSML) from Natural England may be required.

From review of the supplied Scheme design³ (luminaire layout and specifications), it is anticipated that there will be an increase in illuminance from the increased number and positions of new luminaires proposed for the Scheme. This may impact roosting, foraging or commuting bats.

Bat Conservation Trust guidance⁴ states that "the appropriate lux level for bats in landscaped areas should not exceed 0.25 lux". The isolux contour mapping plan shows that there will be an illuminance level of from 5 lux to 1 lux at the woodland/scrub edges, though the tree canopy will likely shield a degree of light spill from penetrating into adjacent habitats. At the chapel, there will be an illuminance of up to 20 lux on the southern elevation.

Combined with further surveys for bats to determine what species may be affected and if roost(s) would be affected, the following mitigation measures could be inbuilt to the design:

- fitting lights with accessories such as baffles hoods or louvres to minimise light spill;
- using rear shields to stop back-light spilling onto the woodland and scrub habitats;
- using downward directional lighting on short columns; and where possible, using motion sensors or short-timers.

2.5 Birds

2.5.1 Desk Study

Records of Schedule 1 birds and notable (i.e. red/amber listed as Birds of Conservation Concern⁵) birds were returned from the desk study. These included the Schedule 1 listed species: peregrine falcon (*Falco peregrinus*), red kite (*Milvus milvus*), kingfisher (*Alcedo atthis*), as well as an assemblage of notable bird species including urban species likely to use the Site including swift (*Apus apus*) dunno (*Turdus philomelos*) and song thrush (*Prunella modularis*).

2.5.2 Field Survey

The habitats on site (building, woodland and scrub) provide nesting and foraging opportunities for notable bird species.

The habitats on site are generally unsuitable for Schedule 1 nesting peregrine, red kite or kingfisher.

2.5.3 Constraints and Recommendations

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended), with some species afforded greater protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the protection from killing or taking that all birds receive. Schedule 1 birds and their young must not be disturbed at the nest.

There is potential for nesting birds to be present during the site clearance within the bird breeding seasons (March to August). The habitats on site are unsuitable for Schedule 1 birds nesting peregrine or red kite.

Vegetation removal should be carried out outside the main bird nesting season of March to August inclusive where possible or carried out under the supervision of a suitably qualified ecologist.

³ AECOM (2021) MOUNT VERNON CAR PARKS ELECTRICAL EXTERNAL SERVICES LIGHTING ISOLUX LAYOUT.

⁴ Bat Conservation Trust (2018) Guidance Note 08/18 Bats and Artificial Lighting in the UK

⁵ BTO (2021) Birds of Conservation Concern 5: the population status of birds in the UK, Channel Islands and Isle of Man.

2.6 Reptiles

2.6.1 Desk Study

There were three species of reptile, common lizard (*Zootoca vivipara*), grass snake (*Natrix helvetica*) and slow worm (*Anguis fragilis*) recorded within 2 km of Site over the last 10 years.

2.6.2 Field survey

The majority of the site consisted of hardstanding which is unsuitable for reptiles.

The woodland and scrub verges bordering the car park are suitable for small numbers of common lizard and slow worm. There may be some deadwood in the woodland and scrub suitable for common lizard, slow worm and grass snake.

2.6.3 Constraints and recommendations

Reptiles are protected against intentional killing and injury under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). There is no requirement for a licence where development works affect common species of reptiles. Instead, Natural England advise that where reptiles are present, they should be protected from any harm that might arise during the development works through appropriate mitigation.

Although habitat on and adjacent to the Site is suitable for common lizard and slow worm, due to the small size of the Site and the intention to refurbish the car park, the scale of risk to reptiles and their habitat, is low.

Where vegetation clearance is required, it is recommended this would be carried out under ecological supervision following an agreed Ecological Method Statement to mitigate for this risk.

2.7 Other Mammals

2.7.1 Desk Study

There were three species of mammal, European badger (*Meles meles*) European otter (*Lutra lutra*) hedgehog (*Erinaceus europaeus*) recorded within 2 km of the site over the last 10 years.

2.7.2 Field Survey

The woodland and scrub were suitable for badger and hedgehog.

Rabbit, hare and evidence of fox (droppings) was seen in the wider hospital site.

2.7.3 Constraints and Recommendations

No further surveys for badger or hedgehog are required. However precautionary mitigation measures are recommended.

All wild mammals, including red fox, are protected by the Wild Mammals (Protection) Act 1996, which makes it an offence to intentionally cause any wild mammal unnecessary suffering by certain methods. Mammal signs, likely fox, been identified within the site, and as there is a risk that a mammal may venture onto the site during ground preparation works.

Site vegetation clearance should be avoided during the hedgehog hibernation period (November to March). If clearing dense scrub during this period, a hand-search for hedgehogs hibernating under leaf debris should be undertaken. Working methods should be detailed within an Ecological Method Statement (similar to reptiles and nesting birds).

During the works, all deep holes and trenches should be covered overnight and/or planked escape routes for any wildlife that may fall in be installed. In addition, any liquids held on-site should be stored in a secure lock-up. Hoarding around the perimeter of the site should also minimise the likelihood of any wild mammals gaining access to the Site.

2.8 Invasive Species

2.8.1 Desk Study

There were 11 invasive non-native plants species recorded within 2 km of the Site within the last 10 years. These included wall cotoneaster (*Cotoneaster horizontalis*) and rhododendron (*Rhododendron ponticum*).

2.8.2 Field Survey

No invasive plant species were recorded at the Site.

In the wider hospital site, several Schedule 9 species were recorded including Himalayan and wall cotoneasters and rhododendron.

2.8.3 Constraints and Recommendations

A survey of the habitats for invasive non-native species (INNS) is recommended. Due to the Phase 1 Habitat Survey being carried out during the winter months, an update survey is recommended during the main botanical season (May to August) to ensure invasive species not visible in the winter period are recorded.

It is recommended that an update survey in the growing season is undertaken and an Invasive Non-Native Species Management Plan is produced if INNS are confirmed on site to undertake a risk assessment of any invasive non-native species of plants found. This would provide advice on how to ensure that none of these plants are spread from the Site into the wild and detail the management to achieve this. The plan would recommend, where appropriate replacement areas of soft landscaping comprising native or near-native plant species that would help to achieve a net gain in biodiversity, e.g. of value to local invertebrates, birds and bats.

An Invasive Non-Native Species Management Plan would also detail biosecurity measures to prevent the spread of invasive non-native plants onto or within the Site during the works.

3. Enhancement Opportunities

This section highlights opportunities for providing ecological enhancements, based on the current Scheme details. These are high level opportunities and would need to be developed in greater detail once further surveys have been completed and the Scheme proposals, such as detailed areas of habitat loss are confirmed.

3.1 Woodland management

The woodland habitats can be enhanced through regular management of invasive scrub⁶ (i.e. removal of scrub to improve ground flora structure and diversity) and leaving brash and log piles from tree maintenance *in situ* to provide opportunities for reptiles, invertebrates and mammals.

3.2 Log piles

Piles of dead wood and brash piles can be created in the woodland or other new landscaped areas, creating hibernation opportunities. Any deadwood to be moved can be relocated within the woodland area to be retained.

3.3 Permeable Paving with grass

Permeable paving surfaces consisting of interlocking concrete grids and a soil/grass mix are recommended for the car park. This can contribute to sustainable drainage and has advantages for surface water runoff, climate change, heat regulation and filtering pollutants.

3.4 Landscape Planting for Biodiversity

Providing native species or species of benefit to biodiversity (e.g. suitable for pollinating insects, nesting birds or providing berries as a food source) throughout any new or modified soft landscaping would greatly increase the value of the Site for biodiversity, in particular invertebrates.

These include suitable native plant species appropriate for an urban setting and also a range of non-native species of benefit for biodiversity as listed within RHS 'Plants for Pollinators'⁷, Natural England advice notes for wildlife friendly gardening⁸ or other comparable guides to gardening for biodiversity.

Specific examples could include:

- planting native shrub species (e.g. blackthorn, hawthorn, hazel, field-maple) to provide nesting opportunities for some red/amber list bird species (dunnock, song thrush, wren (*Troglodytes troglodytes*) identified within the desk study;
- selection of suitable tree species as street specimens which support invertebrates as larval food sources, flowers as nectar sources, berries for wintering birds and to provide opportunity for nesting;
- planting beds with flowering plants for pollinators, particularly to provide nectar sources throughout the year;
- use of shrub species providing berries for birds or winter and / or dense structure for nesting;
- use of rain gardens or minor drainage features planted with damp tolerant species to increase biodiversity;
- providing native shrub or flowering species within planting beds as larval food sources for invertebrates; and
- minimising and avoiding use of pesticides wherever possible to increase landscaping habitat value for invertebrates.

⁶ Forestry Commission (2020) Priority Open Habitats and Woodland Creation

⁷ <https://www.rhs.org.uk/science/conservation-biodiversity/wildlife/plants-for-pollinators>

⁸ Berry, S (2007). Plants for Wildlife Friendly Gardens Natural England

4. Conclusion

This PEAR is based on a desk study undertaken in January 2021 and an ecological survey undertaken on the 26th and 27th of January 2021 to assess the ecological constraints to the Scheme and to provide advice in respect of Scheme design, site layout and / or site investigation.

The following further ecological surveys are recommended:

- a dedicated Preliminary Roost Assessment survey of the church and trees on the woodland edge is recommended to categorise the suitability to support roosting bats to inform assessment of potential impacts on bats; and
- a survey for invasive non-native species (INNS) site is recommended in the optimum growing season (May – September).

There will be no adverse impacts on the ecological features on site if the following mitigation is followed:

- Potential indirect impacts on adjacent habitats including woodland will be avoided by preparing and implementing a CEMP (or similar document) detailing measures to control dust deposition, pollution/spillage, noise, vibration or lighting pollution during construction.
- Scrub clearance will be minimised and any habitat lost will be replaced to ensure no net loss of biodiversity.
- Vegetation clearance should take place outside the main nesting bird season (March and August inclusive) but if it is deemed necessary to remove vegetation within the nesting bird season then a check for nests should be undertaken by a suitably qualified ecologist prior to commencement of works. A method statement should be produced for these works to cover measures to protect reptiles, hedgehog and burrowing mammals during works.
- If any trees with suitability for roosting bats will be impacted by the Proposed Development, they should be assessed for bat roost suitability, to determine any requirement for further surveys. Once assessments and further surveys are complete these will determine any requirement for works under supervised method statement (e.g. inspected by a bat licenced ecologist prior to the start of works and soft felled if required). If a bat is found a European Protected Species Mitigation Licence (EPSML) from Natural England may be required.
- Measures to prevent light-spill should be built into the design to avoid impacts on bats such as
 - fitting lights with accessories such as baffles hoods or louvres to minimise light spill;
 - using rear shields to stop back-light spilling onto the woodland and scrub habitats;
 - using downward directional lighting on short columns; and.
 - Where possible, using motion sensors or short-timers.
- A CEMP (or similar document) will include the covering of all deep holes and trenches overnight and/or the provision of planked escape routes for any wildlife that may fall in. In addition, any liquids held on-site will be stored in a secure lock-up. Hoarding around the perimeter of the site will also minimise the likelihood of any wild mammals gaining access to the site.

Biodiversity enhancements recommended for the Scheme:

- The woodland and scrub should be enhanced by scrub invasion management and leaving log piles and brash piles *in situ* for biodiversity.
- Soft landscaping should be enhanced by landscape planting for biodiversity. A drawing should be produced and reviewed by an ecologist.

4.1 Report Lifespan

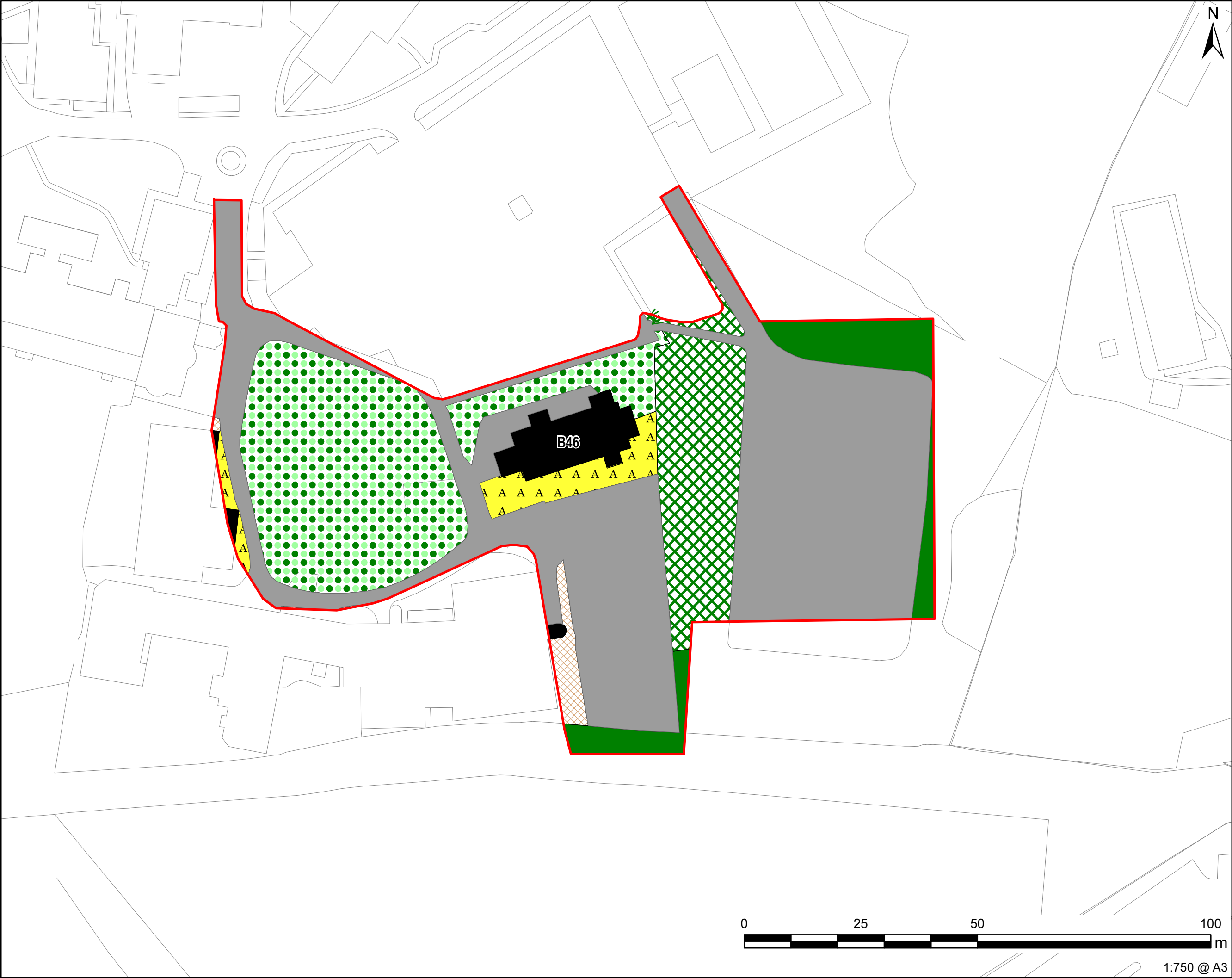
The findings and recommendations outlined here will need to be reassessed if there is a significant change to the type or scale of development proposed, or if there are any significant changes in the use or management of the land that would affect the habitats and species.

If a planning application is made 18 months or more after a PEA, it is advisable to review and update the survey data. This follows guidance from the Chartered Institute of Ecology and Environment Management (CIEEM, 2019⁹).

⁹ CIEEM, 2019. Advice Note on the lifespan of Ecological Reports and Surveys. April 2019

Appendix A Phase 1 Habitat Map

Figure 1. Phase 1 habitat map



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LEGEND

Red Line Boundary

Phase 1 Habitat

Hedge with trees - native species-rich

Broadleaved woodland - semi-natural

Scrub - dense/continuous

Mixed Parkland/scattered trees

Cultivated/disturbed land - amenity grassland

Introduced shrub

Buildings

Hard Standing

NOTES

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ISSUE PURPOSE
FOR INFORMATION

PROJECT NUMBER
60642181

SHEET TITLE
Phase 1 Habitat Survey,
Mount Vernon Southern
Car Parks

SHEET NUMBER
Figure 01



1:750 @ A3

Appendix B Methodology

B.1 Desk Study

A desk study was carried out to identify nature conservation designations of notable habitats and species, including invasive non-native species potentially relevant to the Site and the Proposed Development.

A stratified approach was taken when defining the desk study based on the zone of influence of the Proposed Development on different ecological receptors and an understanding of the maximum distance typically considered by statutory consultees. Accordingly, the desk study identified any international and national nature conservation designations within 5 km of the red line boundary, other non-statutory conservation designations, protected habitats and species within 2 km of the red line boundary. The desk study was carried out using the data sources detailed in Table 8.

As the Site was within 2 km of two geographic areas covered by two local environmental record centres (LERCs), non-statutory designated sites and protected and notable species data was obtained from both LERCs (Greenspace Information for Greater London and Hertfordshire Environmental Records Centre).

The search included statutory designated sites such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs), Ramsar sites, National Nature Reserves (NNRs) and Local Nature Reserves (LNRs).

Table 8. Desk Study Data Sources

Data Source	Accessed	Data Obtained
Multi-Agency Geographic Information for the Countryside (MAGIC) website	January 2021	- International statutory designations within 5km. - National statutory designations within 2km. - Ancient woodlands and notable habitats within 2km. - Higher Level Environmental Stewardship agreements applied to the Site. - Information on habitats and habitat connections (based of aerial photography) relevant to interpretation of planning policy can assessment of potential protected and notable species constraints
Greenspace Institute for Greater London (GiGL)	January 2021	- Non-statutory designations within 2km - Protected and notable species records within 2km (records for the last 10 years only)
Hertfordshire Environmental Records Centre (HERC)	January 2021	- Non-statutory designations within 2km - Protected and notable species records within 1km (records for the last 10 years only)
London Borough of Hillingdon Local Plan Part 2- Policies Map Adopted Version (2020)	January 2021	New and adjusted non-statutory designations within 2km of the Site
Site Allocations and Designations Local Plan Part 2 (2015)	January 2021	New and adjusted non-statutory designations within 2km of the Site
Ordnance Survey 1:2500 Pathfinder maps and aerial photography	January 2021	Information on habitats and habitat connections (based of aerial photography) relevant to interpretation of planning policy can assessment of potential protected and notable species constraints.

B.2 Field Survey

A Phase 1 Habitat Survey, a standard method of biodiversity audit, was carried out on the 26th and 27th of January in accordance with the standard methods (Joint Nature Conservation Committee, 2010)¹⁰. This involved categorising different habitat types and habitat features within a survey area. The information gained for the survey was used to determine the likely biodiversity value of a site, and to direct any more specific survey work, which may need to be carried out prior to submission of a planning application. The standard Phase 1 Habitat Survey method was extended to record target notes on protected, notable and invasive non-native species.

The survey area encompassed all safely accessible parts of the Site

¹⁰ JNCC (2010) Handbook for Phase 1 Habitat Survey - a technique for environmental audit. JNCC

B.3 Appraisal of Potential Suitability to Support Protected and Notable Species

An appraisal was made of the potential suitability of the habitats present to support protected and notable species of plants and/or animals. Field signs, habitat features with potential to support protected species and any sightings or auditory evidence were recorded when encountered, but no detailed surveys were carried out for any particular species.

A note was made of visible instances of invasive non-native plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) including Japanese knotweed (*Reynoutria japonica*) and likewise for species listed on the Invasive Alien Species (Enforcement and Permitting) Act 2019 (as amended). Locations of plants or stands of any such invasive non-native plant species found when recorded.

4.1.1 Initial Bird Nesting Assessment

An assessment of the buildings, hedges and trees within the survey area for their suitability to support nesting birds was carried out concurrent with the Phase 1 habitat survey. Features searched for using close focusing binoculars included nests both in use and recently abandoned, as well as cavities in trees that could be used by larger species such as owls and woodpeckers.

4.1.2 Initial Reptile Habitat Suitability Assessment

An assessment of the habitats within the survey area for their suitability to support reptiles. Features search for included refuge and hibernation potential, connectivity to good habitat, vegetation structure and conditions observed such as disturbance, aspect and sun exposure.

4.1.3 Initial Bat Roost Suitability Assessment

An assessment of the structures and trees on and surrounding Site was carried of January to determine their suitability to support roosting bats. The survey was conducted in line with the Bat Conservation Trust (BCT) survey guidelines¹¹.

Close focusing binoculars were used to conduct an initial external assessment of structures and trees where access was permitted. It should be noted that this only provided an initial assessment of features with suitability for roosting bats, through the presence of Potential Roost Features (PRFs) or checks of interior spaces of trees and structures were not completed.

On the basis of the external assessment, the overall initial suitability of these trees and structures to support roosting bats was classified as either being **Negligible** or **Suitable**. No further scale was applied to the suitability of the habitat for roosting bats.

B.4 Limitations

The survey was carried out in January which was within the sub-optimal season for plant identification. Identification of plants was made from available features such as leaves, twigs and berries. As such, not all plant species may have been visible such as invasives.

The aim of a desk study is to help characterise the baseline context of a proposed development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitats or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the proposed development.

An ecological survey represents a 'snapshot' in time of the ecological condition of a site. The ecological character of a site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support protected species. As the survey was carried outside the main plant growing season for both native and invasive non-native species it is probable that some species weren't

¹¹ Collins, J. (editor) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust: London

present during the time of survey. A PEA is however not a detailed inventory of plant species present and the potential oversight of some species is not a constraint for this level of survey.

None of these limitations either singly or in combination is significant enough to affect the baseline, impact assessment and resulting mitigation or enhancement referenced in this report.

B.5 Report Lifespan

The findings and recommendations outlined here will need to be reassessed if there is a significant change to the type or scale of development proposed, or if there are any significant changes in the use or management of the land that would affect the habitats and species.

If a planning application is made 18 months or more after a PEAR, it is advisable to review and update the survey data. This follows guidance from the Chartered Institute of Ecology and Environment Management (CIEEM, 2019¹²).

¹² CIEEM, 2019. Advice Note on the lifespan of Ecological Reports and Surveys. April 2019

Appendix C Relevant Legislation and Planning Policy

C.1 Legislation

The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.

The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the *Conservation of Habitats and Species Regulations 2017* (referred to as the 2017 Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

Environment Act 2021

Two years after it was first introduced in October 2019, the UK Government's Environment Bill came into force on 17th November 2021. The Bill was introduced to support the Government's overarching vision for leaving the environment in a better state for the next generation, including transposing elements of the UK Government's 25 Year Environment Plan into statute and confirming the UK's approach to environmental governance post-Brexit. Key provisions of what is now the Environment Act 2021 include: the creation of a new post-Brexit environmental watchdog (the Office for Environmental Protection); establishing an over-arching scrutiny framework for the environment; a new "comply or explain" mandate on deforestation for UK businesses; a new direction for resources and waste management; the setting of air quality targets including for fine particulate matter; a requirement to reduce sewage discharges and forthcoming prohibitions of selected single-use plastic items. It will also notably make Biodiversity Net Gain a mandatory requirement within the planning system in England with all relevant developments required to achieve a minimum 10% gain in biodiversity units.

C.2 Designated Sites

Special Protection Areas (SPA) / Special Areas of Conservation (SAC)

These sites in the UK no longer form part of the EU's Natura 2000 ecological network. The *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* (referred to as the 2019 Regulations) have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

- existing SACs and SPAs
- new SACs and SPAs designated under these Regulations

Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.

Formal Appropriate Assessment is required to be undertaken by the competent authority before undertaking, or giving consent, permission or other authorisation for any work which are likely to have a significant effect on such a site.

Wetland of International Importance (Ramsar site)

Designated under the *Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971* (the Ramsar Convention), in the UK, these sites are treated as having the same level of protection as SPA's and SAC's.

Sites of Special Scientific Interest

Under the *Wildlife and Countryside Act 1981* (as amended), it is an offence to carry out or permit to be carried out any operations likely to damage the Site of Special Scientific Interest (SSSI). These operations are listed in the SSSI notification.

Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 of the *Wildlife and Countryside Act 1981* (as amended), before undertaking operations likely to damage a SSSI.

National Nature Reserve

National Nature Reserves (NNR) are established under the National Parks and Access to the Countryside Act 1949. Most NNRs are also underpinned by SSSIs and are therefore protected by the measures detailed above. For NNRs not underpinned by SSSIs it is still an offence to carry out or permit to be carried out any potentially damaging operation.

NNRs are given protection through policies in a local development plan.

Local Nature Reserve

A Local Nature Reserve (LNR) is a statutory designation made under National Parks and Access to the Countryside Act 1949, by principal local authorities (district, borough or unitary councils).

The local authority must control the LNR land - either through ownership, a lease or an agreement with the owner.

LNRs are given protection through policies in a local development plan.

Locally Designated Sites

Local Wildlife Sites are sites with 'substantive nature conservation value'. They are defined areas, identified and selected for their nature conservation value, based on important, distinctive and threatened habitats and species with a region.

They are usually selected by the relevant Wildlife Trust, along with representatives of the local authority and other local wildlife conservation groups.

The LWS selection panel, select all sites that meet the assigned criteria, unlike SSSIs, which for some habitats are a representative sample of sites that meet the national standard. Consequently, many sites of SSSI quality are not designated and instead are selected as LWSs. Consequently, LWSs can be amongst the best sites for biodiversity.

C.3 Protected Species

Bats / Hazel Dormouse / Otter / Great Crested Newt / Smooth Snake / Sand Lizard / Natterjack Toad

These species, known as European Protected Species, are protected under Regulation 43 of the 2017 Regulations as amended by the 2019 Regulations. This makes it an offence to deliberately capture, injure or kill an animal; deliberately disturb an animal; or damage or destroy a breeding site or resting place used by an animal.

Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing. Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural England can be obtained to facilitate the works that would otherwise be illegal.

These species are also protected under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.

Lower levels of disturbance not covered by the *Conservation of Habitats and Species Regulations 2017* remain an offence under the *Wildlife and Countryside Act 1981* although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Where it is considered that the best outcome for water voles is capture and translocation to a different location then this action is considered by Natural England to be outside the scope of the defence as the intentional capture of water voles is unlikely to be considered 'incidental'. In these circumstances there may be genuine grounds for issuing a conservation licence for the purpose of translocating the water vole population to suitable alternative habitat.

Nesting Birds

All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended), with some species afforded greater protection under Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended). In addition to the protection from killing or taking that all birds receive; Schedule 1 birds and their young must not be disturbed at the nest.

There are no licensing purposes that explicitly cover development activities affecting wild birds.

Common Species of Reptile (common lizard, slow worm, grass snake and adder)

Common species of reptile are protected against intentional killing and injury under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). There is no requirement for a licence where development works affect common species of reptiles. Instead, Natural England advise¹³ that where reptiles are present, they should be protected from any harm that might arise during the development works through appropriate mitigation.

Badger

Badgers and their setts are protected under the *Protection of Badgers Act 1992* (as amended). This makes it an offence to wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett.

It is not illegal to carry out disturbance activities near setts that are not occupied, i.e. those that do not show signs of current use.

Where required, licences for development activities involving disturbance or sett interference or closure are issued by Natural England. Licences for activities involving watercourse maintenance, drainage works or flood defences are issued under a separate process.

When assessing the requirement for a licence in respect of development, Natural England¹⁴ state that badgers are relatively tolerant of moderate levels of noise and activity around their setts, and that a low or moderate level of apparent disturbing activity at or near to badger setts does not necessarily disturb the badgers occupying those setts.

Licences are normally not granted from December to June inclusive (the badger breeding season) because dependent cubs may be present within setts.

C.4 Species and Habitats of Principal Importance for the Conservation of Biodiversity

Section 40 of the Natural Environment & Rural Communities Act (NERC) 2006 sets out the duty for public authorities to conserve biodiversity in England.

Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretary of State for England, in consultation with Natural England, are referred to in Section 41 of the NERC Act for England. The list, known as the 'England Biodiversity List', of habitats and species can be found on the Natural England web site.

The 'England Biodiversity List' is used as a guide for decision makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 to have regard to the conservation of biodiversity in England when carrying out their normal functions.

C.5 Non-native Invasive Plant Species

Under the Wildlife and Countryside Act 1981 (as amended), it is an offence to plant or otherwise cause these species to grow in the wild.

Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the *Environmental Protection Act 1990*.

¹³Reptiles: guidelines for developers, English Nature 2004

¹⁴ Interpretation of 'Disturbance' in relation to badgers occupying a sett, Natural England (2009)

C.6 Hedgerows

Under the Hedgerows Regulations 1997, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. In general, permission will be required before removing hedges that are at least 20 metres in length, over 30 years old and contain certain species of plant. The local planning authority will assess the importance of the hedgerow using criteria set out in the regulations.

C.7 Planning Policy

National Planning Policy Framework, 2019

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF). Chapter 15 of the NPPF '*Conserving and enhancing the natural environment*' sets out the requirements to consider biodiversity in planning decisions.

Regional Planning Policy

Relevant regional planning policies for the site is detailed in the following documents:

- The Mayor's Biodiversity Strategy (2002);
- The Mayor's London Environment Strategy (2018);
- London Biodiversity Action Plan (Greenspace Information for Greater London, 2007);
- London Plan. The Spatial Development Strategy for Greater London (2021); and
- The London Plan (adopted March 2021).

Table 9 provides a summary of the relevant regional planning policies. For a precise wording of each specific policy please refer back to the source document. This planning policy has been considered when assessing potential ecological constraints and opportunities identified by the desk study and field surveys; and, when assessing requirements for further survey, design options and ecological mitigation, as described in Section 2 (Identification of Ecological Constraints and Recommendations) and Section 3 (Opportunities for Ecological Enhancements).

Table 9. Summary of Regional Planning Policy

Document	Policy	Purpose
The Mayor's London Environment Strategy (2018)	Objective 5.1 Make more than half of London's area green by 2050:	Policy 5.1.1 Protect, enhance and increase green areas in the city, to provide green infrastructure services and benefits that London needs now and in the future. Policy 5.1.2 Protect, conserve, and enhance the landscape and cultural value of London's green infrastructure.
	Objective 5.2 Conserving and enhancing wildlife and natural habitats:	Policy 5.2.1 Protect a core network of nature conservation sites and ensure a net gain in biodiversity.
	Objective 5.3 Value London's natural capital as an economic asset and support greater investment in green infrastructure	Policy 5.3.1 Address under investment, and improve the management of London's green infrastructure, by developing new business models and improving the awareness of the benefits of London's green infrastructure.
London Biodiversity Action Plan (Greenspace Information for Greater London 2007)	Protected Species	Habitats and species that are of importance for biodiversity in London. Priority habitats of relevance to the Site are "Parks and urban green spaces", which support biodiversity and provide contact with nature. Measures to conserve and enhance biodiversity in London are contained within a document entitled Design of Biodiversity in London, which includes recommendations such as the inclusion of green and brown roofs with new developers.
London Plan. The Spatial	Policy G1 Green Infrastructure	London's network of green and open spaces, and green features in the built environment should be protected and

Document	Policy	Purpose
Development Strategy for Greater London (2021)		enhanced. Green infrastructure should be planned, designed and managed in an integrated way to achieve multiple benefits. Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network
	Policy G2 London's Green Belt	The Green Belt should be protected from inappropriate developments. The enhancement of the Green Belt to provide appropriate multi-functional beneficial uses for Londoners should be supported
	Policy G4 Open Space	Development Plans should promote the creation of new areas of publicly accessible open space particularly green space should not result in the loss of protected open space.
	Policy G5 Urban greening	Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage. In the interim, the Mayor recommends a target Urban Greening Factor (UGF) score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development (excluding B2 and B8 uses).
	Policy G6 Biodiversity and access to nature	Sites of Importance for Nature Conservation (SINCs) should be protected. Development Plans should support the protection and conservation of priority species and habitats that sit outside the SINC network and promote opportunities for enhancing them using Biodiversity Action Plans and seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context. Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.
	Policy G7 Trees and woodlands	London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest. 'Veteran' trees and ancient woodland should be protected and opportunities for tree planting in strategic locations identified. Development proposals should ensure that, wherever possible, existing trees of value are retained. If trees are removed there should be adequate replacement based on the existing value of the benefits of the trees removed

Local Planning Policy

Relevant local planning policies for the development within the Site are detailed in the following documents:

- London Borough of Hillingdon Local Plan Part 1: Strategic Policies (Adopted 2012); and
- London Borough of Hillingdon Local Plan Part 2: Development Management Policies (January 2020).

Table 10 provides a summary of relevant local planning policies. For the precise wording of each specific policy please refer back to the source document. This planning policy has been considered when assessing potential ecological constraints and opportunities identified by the desk study and field surveys; and, when assessing requirements for further survey, design options and ecological mitigation, as described in Section 2 (Ecological Baseline) and Section 3 (Opportunities for Ecological Enhancements).

Table 10. Summary of Local Planning Policy

Document	Planning Policy	Purpose
London Borough of Hillingdon Local Plan Part 1: Strategic Policies (2012)	EM3 Blue Ribbon Network	The Council will continue to promote and contribute to the positive enhancement of the strategic river and canal corridors and the associated wildlife and habitats through the Biodiversity Action Plan and the Thames River Basin Management Plan, and developer contributions where appropriate
	EM4 Open Space and Informal Recreation	The Council will seek to protect existing tree and landscape features and enhance open spaces with new areas of vegetation cover (including the linking of existing fragmented areas) including front and back gardens for the benefit of wildlife and a healthier lifestyle, mitigating climate change.
	EM7 Biological and Geological Conservation	The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss.

Document	Planning Policy	Purpose
		Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/ assist in the delivery of actions within the Biodiversity Action Plan. The provision of biodiversity improvements from all development, where feasible. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.
London Borough of Hillingdon Local Plan Part 2: Development Management Policies (2020)	DMHB 11: Design of New Development	All new developments must include landscaping and tree planting to protect and enhance amenity, biodiversity and green infrastructure.
	DMHB 14: Trees and Landscaping	All developments will be expected to retain or enhance existing landscaping, trees, biodiversity or other natural features of merit. Development proposals will be required to provide a landscape scheme that includes hard and soft landscaping appropriate to the character of the area, which supports and enhances biodiversity, particularly in areas deficient of green infrastructure. Where space for ground level planting is limited, such as high rise buildings, the inclusion of living walls and roofs will be expected where feasible. Where trees are to be removed, proposals for replanting of new trees on-site must be provided or include contributions to offsite provision.
	DMEI 1: Living walls and Roofs and on-site vegetation	All development proposals are required to comply with the following: All major development should incorporate living roofs and/or walls into the development. Suitable justification should be provided where living walls and roofs cannot be provided. Major development in Air Quality Management Areas must provide onsite provision of living roofs and/or walls. A suitable offsite contribution may be required where onsite provision is not appropriate.
	DMEI 5: Green Chains	Development in Green Chains will only be supported if it conserves and enhances the visual amenity and nature conservation value of the landscape, improve biodiversity in and around the area.
	DMEI 7: Biodiversity Protection and Enhancement	The design and layout of new development should retain and enhance any existing features of biodiversity or geological value within the site. Where loss of a significant existing feature of biodiversity is unavoidable, replacement features of equivalent biodiversity value should be provided on-site. Where development is constrained and cannot provide high quality biodiversity enhancements on-site, then appropriate contributions will be sought to deliver off-site improvements through a legal agreement. If development is proposed on or near to a site considered to have features of ecological or geological value, applicants must submit appropriate surveys and assessments to demonstrate that the proposed development will not have unacceptable effects. The development must provide a positive contribution to the protection and enhancement of the site or feature of ecological value. Proposals that result in significant harm to biodiversity which cannot be avoided, mitigated, or, as a last resort, compensated for, will normally be refused.

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