FORMER NESTLE FACTORY, HAYES

ECOLOGY REPORTS

MAY 2017

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The site at the Former Nestlé Factory, Nestles Avenue, Hayes has been subject to ecological appraisal to accompany a planning application for proposed redevelopment.

Proposals

The proposals for the site comprise part-demolition of existing factory buildings, associated structures and redevelopment to provide to provide to 1,381 dwellings (Use Class C3), office, retail, community and leisure uses (Use Classes A1/A3/A4/B1/B8/D1/D2) 22,663 sqm (GEA) of commercial floorspace (Use Classes B1c/B2/B8 and Data Centre (sui generis)), amenity and playspace, allotments, landscaping, access, service yards, associated car parking and other engineering works.

The residential aspect of the proposals is focused within the western part of the site, whilst the industrial aspect of the scheme is proposed within the eastern part. As such, the site has been subdivided into two parcels, with each parcel being subject to separate ecological appraisals, as set out following:

Western parcel: Aspect Ecology was commissioned by Barratt London to undertake an ecological appraisal in respect of the proposed residential aspect of the development; and

Eastern parcel: Essex Mammal Surveys on behalf of Terry Anderson Landscape Architects was commissioned by SEGRO Plc. to undertake an ecological appraisal in respect of the proposed industrial aspect of the development.

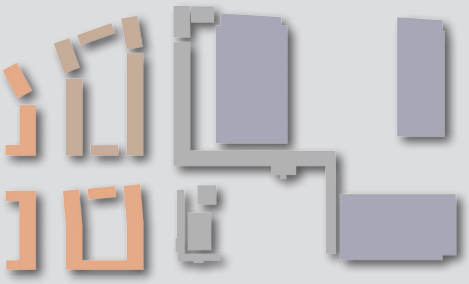
The two ecological appraisal reports (and associated protected species report) contained within have been undertaken independently of each other, but ongoing liaison between Aspect Ecology and Essex Mammal Surveys on behalf of Terry Anderson Landscape Architects has ensured consistency throughout the appraisals.

Survey

The site was surveyed in March and April 2016 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats and Badger.

Ecological Designations

The available information confirms that no statutory or non-statutorynature conservation designations are present within the site. The non-statutory Grand Union



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SEGRO

aspect ecology

ASPECT ECOLOGY LTD.
Hardwick Business Park
Noral Way
Banbury
Oxfordshire
OX16 2AF

TALA

TALA
54 Kenilworth Avenue
London
SW19 7LW

Canal Site of Metropolitan Interest to Nature Conservation (SMINC) is located adjacent to the northern site boundary, but subject to the recommended mitigation measures set out in the reports, it is considered that this designation will be suitably safeguarded both during construction and in the long-term. All further designations within the surrounds of the site are unlikely to be affected by the proposals.

Habitats

The site is dominated by buildings and hardstanding along with areas of grassland, amenity planting and trees. The buildings and hardstanding are considered to be of negligible ecological value and the loss of these features to the proposals is of negligible significance. The grassland and amenity planting is generally of low ecological value, whilst the semi-mature and mature trees are considered to be of moderate value at the local level. The proposed losses of amenity grassland and planting are of minor significance and will be offset by new landscape planting within the scheme. The mature trees are to be retained under the proposals and will be protected during construction.

Protected Species

The site generally offers limited opportunities for protected species, and evidence for the presence of any such species was limited to a very low number of foraging and commuting Common Pipistrelle Pipistrellus pipistrellus and Soprano Pipistrelle Pipistrellus pygmaeus bats and common birds. It is likely that birds are nesting within suitable habitat within the site and could therefore potentially be adversely affected by the proposals. Appropriate mitigation measures, centred on the careful timing of works, will therefore be implemented to safeguard nesting birds during relevant site clearance works. Long-term nesting opportunities will be maintained, if not enhanced, under the proposals through new landscape planting and provision of nest boxes. The site also provides minor opportunities for the UK Priority Species Hedgehog and therefore recommendations for safeguards during vegetation clearance are proposed.

Enhancements

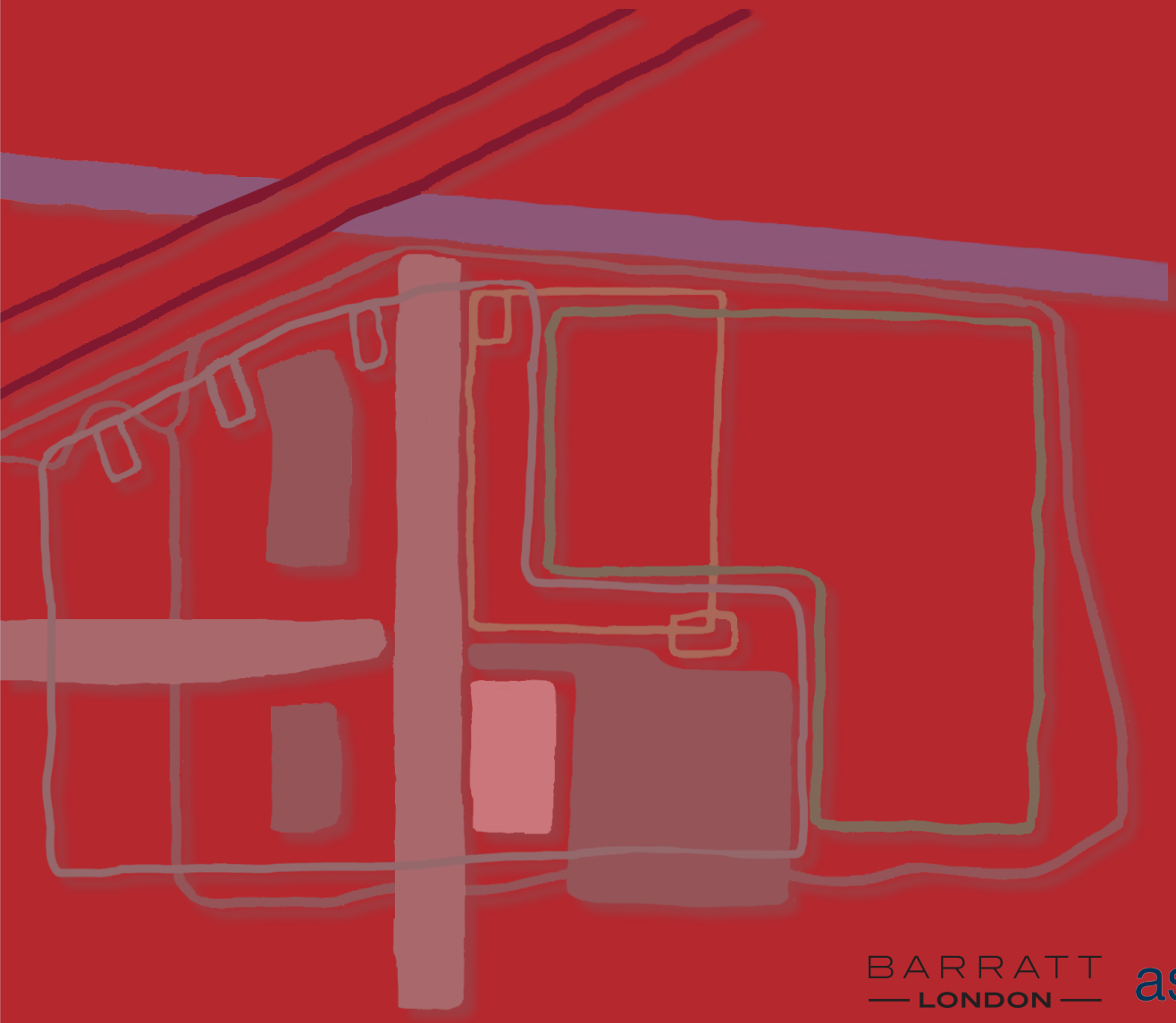
The proposals present the opportunity to secure a number of net gains in biodiversity, including additional native tree planting, new roosting opportunities for bats, diverse nesting habitats for birds and the provision of green/brown roofs. Due regard has been given to London Heathrow and its associated airspace safeguarding zone, particularly with regard to birds and the potential for bird-strike and it is considered that these enhancements comply with the design recommendations provided by the London Heathrow Airport Safeguarding Team.

Summary

In summary, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered that the proposals will not harm biodiversity of the site but in fact present the opportunity for enhancement of biodiversity interests. Further information on the details of the scheme is contained within the Design and Access Statement and Planning Statement accompanying the application.

FORMER NESTLE FACTORY, HAYES

ECOLOGY REPORT
(Residential Scheme)
MAY 2017



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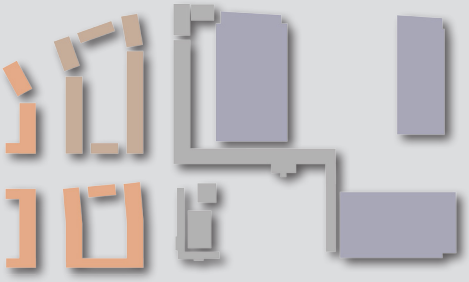
This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, and subsequently provides an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are recommended so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are proposed with reference to national conservation priorities and local Biodiversity Action Plans (BAPs). This report relates to the residential scheme within the western parcel only. The eastern parcel, which relates to the commercial aspect of the development proposals, is appraised in the accompanying report produced by Essex Mammal Surveys on behalf of Terry Anderson Landscape Architects.



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ASPECT ECOLOGY LTD.
Hardwick Business Park
Noral Way
Banbury
Oxfordshire
OX16 2AF

Quality Management	
Client:	Barratt London
Project:	Former Nestlé Factory, Nestles Avenue, Hayes
Report Title:	Ecological Appraisal
Project Number:	ECO-4684
File Reference:	4684 EcoApp vf8
Date:	10/05/2017 MD/LB/TS

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Confidentiality

This report may contain sensitive information relating to protected species. The information contained herein should not be disseminated without the prior consent of Aspect Ecology. All records of Badger setts must remain confidential. Where this report is circulated publicly or uploaded to online planning portals, reference to Badger setts must be redacted and any maps pertaining to the locations of Badger setts removed from the document.

Legal Guidance

The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

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Contact Details

Aspect Ecology Ltd
Hardwick Business Park | Noral Way | Banbury | Oxfordshire OX16 2AF
t 01295 276066 f 01295 265072 e info@aspect-ecology.com
w www.aspect-ecology.com

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1 Introduction

1.1 Background & Proposals

1.1.1 Aspect Ecology was commissioned by Barratt London in April 2016 to undertake an ecological appraisal in respect of proposed development within the western parcel of the Former Nestlé Factory, Nestles Avenue, Hayes, centred at grid reference TQ 0999 7924, as shown on Plan 4684/ECO1.

1.1.2 The proposals for the entire site are for the part-demolition of existing factory buildings, associated structures and redevelopment to provide 1,381 dwellings (Use Class C3), office, retail, community and leisure uses (Use Classes A1/A3/A4/B1/B8/D1/D2) 22,663 sqm (GEA) of commercial floorspace (Use Classes B1c/B2/B8 and Data Centre (sui generis)), amenity and playspace, allotments, landscaping, access, service yards, associated car parking and other engineering works.

1.1.3 This report relates to the residential scheme within the western parcel only, and is herein after referred to as 'the site'. The eastern parcel, which relates to the commercial aspect of the development proposals, is appraised in the accompanying report produced by Essex Mammal Surveys on behalf of Terry Anderson Landscape Architects.

1.2 Site Overview

1.2.1 The site, which forms part of a former Nestlé Factory compound, is located within the London Borough of Hillingdon, within the western part of Greater London. The site is bound to the south by Nestles Avenue, industrial units to the west, a railway line to the north-west and the Grand Union Canal to the north, whilst additional land associated with the Nestlé Factory eastern parcel is located to the east.

1.2.2 The site itself is dominated by factory buildings associated with the site's former use as a Nestle production factory, along with large areas of hardstanding and amenity planting. A number of mature trees are present within the south of the site associated with the entranceway to the Factory, whilst an outgrown bowling green is also present.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, and subsequently provides an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are recommended so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are proposed with reference to national conservation priorities and local Biodiversity Action Plans (BAPs).

1.3.2 This report should be read in conjunction with the Preliminary Ecological Assessment and Bat Survey report produced for the eastern parcel by Essex Mammal Surveys on behalf of Terry Anderson Landscape Architects, dated April and May 2016 respectively.

2 Methodology

2.1 Desktop Study

2.1.1 In order to compile background information on the site and its immediate surroundings, Greenspace Information for Greater London (GiGL) was contacted. The information received from this organisation is discussed in the text and reproduced, where appropriate, on Plan 4684/ECO2.

2.1.2 Information returned from GiGL did not include records relating to bats. As such, London Bat Group was also contacted to provide specific records of bats from within the site and its immediate surroundings. The information received from this organisation is discussed in the relevant sections of this report.

2.1.3 Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (15km). This information is reproduced at Appendix 4684/2 and where appropriate on Plan 4684/ECO2.

2.1.4 In addition, the Woodland Trust database was searched for any records of veteran trees within or adjacent to the site.

2.2 Habitat Survey

2.2.1 The site was surveyed in April 2016 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.

2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology[1], whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal[2] to record details on the actual or potential presence of any notable or protected species or habitats.

2.2.3 Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

2.3 Faunal Surveys

2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, and specific consideration was given to bats and Badger, as described below.

1 Joint Nature Conservation Committee (2010) *'Handbook for Phase 1 habitat survey: A technique for environmental audit.'*

2 Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) '*Guidelines for Preliminary Ecological Appraisal.'*

Bats[3,4]

Visual Inspection Surveys

2.3.2 **Buildings.** Buildings within the site were subject to specific external and (where deemed necessary) internal inspection surveys using ladders, torches and binoculars as appropriate.

2.3.3 During the external inspections, particular attention was given to any potential roost features or access points, such as broken or lifted roof tiles, lifted lead flashing, soffit boxes, weatherboarding, hanging tiles, etc. and for any external signs of use by bats such as accumulations of bat droppings or staining. Binoculars were used to inspect any inaccessible areas more closely where appropriate.

2.3.4 During the internal inspections, evidence for the presence of bats was searched for with particular attention paid to any loft voids and relevant potential roost features and locations, such as ridge boards, rafters, purlins, gable walls, and mortise joints. Specific searches were made for bat droppings that can indicate present or past use and extent of use, whilst other signs that can indicate the possible presence of bats were also searched for, e.g. presence of stained areas, feeding remains, corpses, etc. Any droppings collected during the course of the surveys were visually assessed and attributed to a species where possible on the basis of size/shape/texture[5]. Where appropriate, samples of similar droppings were collected with gloved hands and put into labelled sample tubes, and forwarded to the University of Warwick for DNA analysis.

2.3.5 Trees were assessed for their suitability to support roosting bats based on the presence of features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance[6] as:

- Negligible;
- Low;
- Moderate; or
- High.

2.3.6 Any potential roost features identified were also inspected for any signs indicating possible use by bats, e.g. staining, scratch marks, bat droppings, etc.

Dusk Emergence/ Dawn Re-entry Survey

2.3.7 Dusk emergence and dawn re-entry surveys were carried out on 16th/17th May 2016 to identify any bats roosting in the buildings highlighted to have potential to support roosting bats, specifically buildings B1 and B3 on Plan 4684/ECO3.

2.3.8 Surveyors employed Echo Meter EM3 and Bat Box Duet hand-held electronic detectors to aid identification of any bats observed. At dusk, surveyors were in position at sunset, remaining in place for approximately 1.5 - 2 hours. At dawn, surveyors were in place approximately 1.5 – 2 hours before sunrise and remained in

3 Based on: English Nature (2004) '*Bat Mitigation Guidelines'*

4 Bat Conservation Trust (2012) '*Bat Surveys – Good Practice Guidelines'*

5 Stebbings, RE, Yalden DW and Herman, JS (2007). '*Which bat is it? A guide to bat identification in Great Britain and Ireland.'* The Mammal Society

6 Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

place until 15 minutes after sunrise. This survey method aims to identify any roosting bats emerging from or returning to potential roost sites.

2.3.9 This survey work was carried out during suitable weather conditions, as set out in Table 2.1 below.

Table 2.1. Bat Emergence / Re-entry Survey Details

Date	Start & end times & time of sunset	Structure reference / location	Equipment used	Weather
16/05/2016	Start time: 20.48 End time: 22.20 Sunset: 20.48	B1 and B3	Bat Box Duet connected to MP3 recorders and Echo Meter EM3.	Dry, 20% cloud, BF1*, 16°C
17/05/2016	Start time: 03.24 End time: 05.22 Sunrise: 05.07	B1 and B3	Bat Box Duet connected to MP3 recorders and Echo Meter EM3.	Dry, 20% cloud, BF1*, 10°C
Comments: The survey was undertaken by 2 surveyors.				

**BF0 = calm, BF12 = hurricane force*

Activity Surveys

2.3.10 Immediately following and preceding the emergence / re-entry surveys, the opportunity was taken to carry out a rapid activity survey of the entire site in order to ascertain the level of usage of the site by foraging or commuting bats and to inform the requirement for more substantial activity survey work. This survey method involved walking a planned transect route around the site, with key listening points. Particular attention was given to the adjacent Grand Union Canal corridor and railway line.

Analysis of Bat Survey Recordings

2.3.11 All bat calls were analysed using BatSound v.3.30© and Analook W v3.7 to verify the species recorded during the survey work. Where recordings could not be reliably attributed to species (such as for *Myotis* species) or where overlaps between otherwise distinguishable species occur (such as in Pipistrelle bat calls around 40kHz or 50kHz) calls were identified to genus level; in the case of calls which could not be distinguished between *Nyctalus* sp. and Serotine, these have been labelled as 'unidentified big bat' species.

Badger (*Meles meles*)[7]

2.3.12 A detailed Badger survey was carried out in April 2016. The survey comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The following information was recorded:

- Number and location of well used / active entrances; these are clear from any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently;

[7] Based on: Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

- Number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance;
- Number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.3.13 The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

2.4 Scoping

2.4.1 Following completion of the Phase 1 habitat and general faunal surveys, a scoping opinion was sought from the Local Planning Authority, namely London Borough of Hillingdon, in respect of Phase 2 faunal survey requirements. This correspondence highlighted that no further Phase 2 surveys would be required to inform the planning application for the site (although, as set out above at Section 2.4, further survey work was undertaken in respect of roosting bats), see correspondence at Appendix 4684/3.

2.5 Survey Constraints/Limitations

2.5.1 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons. However, the Phase 1 habitat survey was undertaken during the optimal seasonal period for botanical work, therefore allowing a robust assessment of the intrinsic ecological interest of the site to be made.

2.5.2 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

2.5.3 The specific Phase 2 surveys were undertaken at the appropriate time of year and during suitable weather conditions to an appropriate level of survey effort. Any specific limitations are noted in the relevant sections above or discussed in the results section, although no significant constraints were experienced.

2.6 Principles of Ecological Evaluation

2.6.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016)8. In

[8] Chartered Institute of Ecology and Environmental Management (CIEEM) (2016) *'Guidelines for Ecological Impact Assessment in the UK and Ireland'*

evaluating ecological features and resources the following key factors are taken into account:

2.6.2 *Geographic Frame of Reference*. The value of an ecological feature or resource is determined within a defined geographical context using the following frame of reference:

- International;
- National;
- Regional;
- County (or Metropolitan);
- District (or Unitary Authority, City or Borough);
- Local (or Parish);
- At the Site level only.

2.6.3 Within this frame of reference, certain sites may carry a statutory ecological designation, e.g. Special Area of Conservation (SAC) for internationally important sites or Site of Special Scientific Interest (SSSI) for sites of national importance.

2.6.4 Sites of more localised nature conservation importance do not receive statutory protection but may be designated by Local Planning Authorities or other bodies, e.g. Wildlife Trusts. Such non-statutory designations or 'Local Sites'[9] include Local Wildlife Sites (LWSs) and Sites of Nature Conservation Interest (SNCIs), for example.

2.6.5 *Biodiversity Value: Habitats*. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.

2.6.6 Regard should also be given to habitats listed as priorities for conservation in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', as the likely effect of a development on such habitats is a potential material consideration within the planning process. Certain habitats may also be listed within regional or local Biodiversity Action Plans (BAPs), albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

2.6.7 *Biodiversity Value: Species*. The assessment of the value of a species is based on factors including distribution, status, historical trends, population size and rarity. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.

2.6.8 Regard should also be given to species listed as priorities for conservation in accordance with Sections 41 and 42 of the NERC Act 2006, so called 'Species of

[9] DEFRA (2006) '*Local Sites – Guidance on their Identification, Selection and Management*'

Principal Importance' or 'Priority Species'. Certain species may also be listed within regional or local BAPs, albeit as with habitats the listing of a particular species under a BAP does not in itself imply any specific level of importance.

2.6.9 *Secondary or Supporting Value*. Some habitats or features that are of no intrinsic biodiversity value may nonetheless perform an ecological function, e.g. as a buffer. In addition, certain features of the landscape which by virtue of their linear or continuous nature (e.g. rivers) or their function as 'stepping stones' (e.g. small woods) may be of value for the migration, dispersal and genetic exchange of wild species.

2.7 National Policy Approach to Biodiversity in the Planning System

2.7.1 The National Planning Policy Framework (NPPF)[10] describes the Government's national policies on 'conserving and enhancing the natural environment' (Chapter 11). NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' (2014) and ODPM Circular 06/2005[11].

2.7.2 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss[12], as shown at Paragraph 109, which states the planning system should contribute to and enhance the natural and local environment by:

'*minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*'

2.7.3 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 118:

'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- *if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;'*

2.7.4 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2013[13], which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm;
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

[10] Department for Communities and Local Government (2012) '*National Planning Policy Framework'*
[11] ODPM (2006) '*Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice*'
[12] DEFRA (2011) '*Biodiversity 2020: A strategy for England's wildlife and ecosystem services*'
[13] British Standards Institution (2013) '*Biodiversity – Code of practice for planning and development*', BS 42020:2013

2.7.5 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2013, section 5.5).

2.8 Local Policy

2.8.1 London Borough of Hillingdon's Local Plan sets out policies for growth up to 2026. Within Part 1 of the Local Plan, which was adopted in November 2012, **Policy EM7** relates specifically to biodiversity and geological conservation. This policy sets out measures for the '*protection and enhancement of all Sites of Importance for Nature Conservation... and populations of protected species'*. This policy also seeks to encourage the '*provision of biodiversity improvements from all developments, where feasible; the provision of green roofs and living walls...; and the use of sustainable drainage systems that promote ecological connectivity and natural habitats*'.

2.8.2 Part 2 of the Local Plan is currently being finalised. However, a draft Development Management Policies document has been produced (October 2015), which provides the detail of the strategic policies set out in the adopted Local Plan Part 1.

2.8.3 Within this document, **Policy DMEI1** relates to the provision of living walls and roofs within new developments, and sets out that '*all major development should incorporate living roofs and/or walls into the development*'.

2.8.4 **Policy DMEI7** relates to biodiversity protection and enhancement, and sets out that '*the design and layout of new development should retain and enhance any existing features of biodiversity value within the site'*. In relation to the Grand Union Canal specifically, this policy sets out that '*all development alongside, or that benefits from a frontage on to a main river or the Grand Union Canal will be expected to contribute to additional biodiversity improvements'*.

2.8.5 **Policy DMEI8** strengthens this by setting out that '*all development alongside or that benefits from a frontage on the Grand Union Canal will be expected to contribute to improvements to biodiversity improvements to the canal'*.

3 Ecological Designations

3.1 Statutory Designations

Description

3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 4684/ECO2.

3.1.2 No statutory ecological designations are present within or immediately adjacent to the site. The nearest statutory designation is Yeading Meadows Local Nature Reserve (LNR) located approximately 2.5km to the north of the site. This LNR is designated on the basis of an old Oak plantation woodland and associated fauna.

3.1.3 The next nearest statutory designation is Cranebank LNR, located approximately 2.7km to the south of the site, which is designated for its flood meadows along the River Crane.

3.1.4 No international-level statutory designations are present within the surrounds of the site, with the nearest, South West London Waterbodies Special Protection Area (SPA) and Ramsar, located approximately 6.8km south-west of the site. This designation comprises a series of reservoirs and gravel pits, and is designated for the population of migratory birds that they support.

Evaluation

3.1.5 The site itself is not subject to any statutory ecological designations. All statutory ecological designations in the surrounding area are well separated from the site by existing development and, given the nature and scale of the proposals, these designations are considered unlikely to be adversely affected.

3.1.6 Notably, the site is not located within any SSSI (Site of Special Scientific Interest) Impact Risk Zones for residential / commercial development, such that no adverse effects are considered likely to result on any SSSIs, SACs, SPAs or Ramsar designations as a result of the proposals.

3.2 Non-statutory Designations

Description

3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 4684/ECO2.

3.2.2 No non-statutory ecological designations are present within the site, although the Grand Union Canal, located adjacent to the northern site boundary, is subject to designation as a Metropolitan Level Site of Importance for Nature Conservation (SMINC). The London's Canals SMINC is designated on the basis of the fish and aquatic plants present, along with its amenity value.

3.2.3 The next nearest non-statutory designation is Crane Corridor SMINC, which is located approximately 315m to the south-east of the site. This SMINC is designated on the basis of wetland habitats along the River Crane.

Evaluation

3.2.4 The site itself is not subject to any non-statutory nature conservation designations, although the Grand Union Canal SMINC is located adjacent to the northern site boundary. This designation is located wholly off site and will therefore by unaffected directly by development works. However, in the absence of mitigation, the designation may be adversely affected indirectly, principally during the construction phase of the development.

3.2.5 The Grand Union Canal SMINC has the potential to be adversely affected during construction of the development in the absence of mitigation, notably as a result of dust creation and risk of pollution via contamination of surface run-off. However, such effects would be restricted to the near surrounds of the working area, and would be only temporary in effect whilst development works are progressing.

3.2.6 The designation also has the potential to be subject to minor ongoing effects arising from its close proximity to new residential dwellings, such as contamination of surface run-off from vehicles and household / garden chemicals. However, these effects are unlikely to be significant in comparison to the current industrial use of the site.

3.2.7 Nonetheless, mitigation measures are proposed in order to minimise potential adverse effects on the Grand Union Canal SMINC, as set out at Section 6. Such measures include construction safeguards to minimise damage and disturbance, and the implementation of SuDS to control run-off.

3.2.8 Following the implementation of these measures, it is considered that adverse effects on the Grand Union Canal SMINC from construction activities and effects as a result of the completed development will be minimised.

3.2.9 All other non-statutory designations in the surrounding area are well separated from the site by existing development. As such, these designations are considered unlikely to be adversely affected.

3.3 Ancient Woodland and Notable Trees

Description

3.3.1 There are no areas of ancient woodland or notable trees within or adjacent to the site. The nearest such feature to the site is an area of Ancient Woodland, located approximately 4.8km to the north of the site.

Evaluation

3.3.2 It is unlikely that any ancient woodland or other notable trees will be affected by the proposals.

3.4 Summary

3.4.1 In summary, the site itself is not subject to any statutory or non-statutory ecological designations and, subject to the implementation of appropriate mitigation measures (as described above), it is considered unlikely that any such designations in the surrounding area will be significantly affected by the proposals.

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 Information returned from the Records Centre does not include any specific records of protected, rare or notable plant species from within or immediately adjacent to the site. The nearest records to the site are for Bluebell *Hyacinthoides non-scripta*, Greater Chickweed *Stellaria neglecta* and Devil's-bit Scabious *Succisa pratensis*, located approximately 765m and 840m from the site respectively. No evidence for the presence of any of these species within the site was recorded during the survey work undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of intrinsic ecological value, such as in relation to the presence of rare plant communities or individual plant species of elevated interest. The likely effects of the proposals on the habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Section 5 below.

4.2.2 The following habitats/ecological features were identified within/adjacent to the site:

- Buildings and Hardstanding;
- Grassland;
- Trees, Scrub and Amenity Planting;
- Grand Union Canal (Offsite); and
- Invasive Species.

4.2.3 The locations of these habitat types and features are illustrated on Plan 4684/ECO3 and described in detail below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Sections 41 and 42 of the NERC Act require the Secretary of State to publish a list of habitats which are of principal importance for conservation in England and Wales, respectively. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

4.3.2 Of the habitats within the site, the trees and grassland within the south eastern corner of the site have been identified on Natural England's MAGIC database as supporting Broadleaved Woodland, however the conditions on the ground are not considered to reflect the definition of this priority habitat, as discussed below. Of the

remainder of the habitats at the site, none are considered to qualify as UK Priority Habitats.

4.4 Buildings and Hardstanding

Description

4.4.1 A number of buildings are present within the site, identified as buildings **B1-B12** on Plan 4684/ECO3, and described fully at Appendix 4684/4. These largely comprise large industrial factory buildings, along with associated office buildings, warehouses and associated infrastructure, and are generally of steel or brick construction, supporting flat roofs.

4.4.2 The buildings are surrounded by areas of hardstanding, including car parking and access roads. The hardstanding is predominantly devoid of vegetation, aside from occasional cracks. These cracks and gaps support small areas of colonising vegetation, restricted to common and widespread species including Annual Meadow-grass *Poa annua*, Bitter-cress *Cardamine* sp., Ribwort Plantain *Plantago lanceolata*, Groundsel *Senecio vulgaris* and Bristly Ox-tongue *Picris echioides*, along with abundant mosses.

Evaluation

4.4.3 The buildings and hardstanding support a limited range of common and widespread floral species and are inherently of negligible ecological value. Potential for the buildings to support faunal species such as roosting bats is discussed below in Section 5.

4.5 Grassland

Description

4.5.1 Several areas of grassland are present within the site, as shown on Plan 4684/ECO3. These generally form outgrown amenity grassland lawns concentrated within the south of the site, along with an outgrown bowling green.

4.5.2 The grassland lawns within the south of the site, labelled **G1** on Plan 4684/ECO3, were recorded to support a sward height of approximately 20cm and did not appear to have been subject to any recent management at the time of the survey. The sward was recorded to be grass dominated with species including Perennial Rye-grass *Lolium perenne*, Fescue *Festuca* sp., Yorkshire-fog *Holcus lanatus* and Cock's-foot *Dactylis glomerata*. Herb species within the sward were recorded to be frequent including Yarrow *Achillea millefolium*, Dove's-foot Cranes-bill *Geranium molle*, Vetch sp. *Vicia*, Dandelion *Taraxacum officinale* agg., Common Sorrel *Rumex acetosa*, Common Ragwort *Senecio jacobaea*, Bristly Ox-tongue, Groundsel, Red Dead-nettle *Lamium purpureum*, Bitter-cress sp., Common Mouse-ear *Cerastium fontanum* and Creeping cinquefoil *Potentilla reptans*.

4.5.3 These grassland lawns are associated with a number of tree and amenity shrub species, as shown on Plan 4684/ECO3. Over shading from these trees and shrubs has resulted in bare patches within the sward within which herb species were recorded to dominate. Species recorded include abundant Dove's-foot Cranes-bill, Cow Parsley *Anthriscus sylvestris*, Common Ragwort, Thistle *Cirsium* sp., Spotted Medick

Medicago arabica, Daisy *Bellis perennis*, Bristly Ox-tongue, Common Chickweed *Stellaria media* and Buck's-horn Plantain *Plantago coronopus*. In addition, in densely shaded areas, occasional woodland herb species were noted, including Herb-Robert *Geranium robertianum*, Lesser Celandine *Ranunculus ficaria*, Garlic Mustard *Alliaria petiolata*, Common Dog-violet *Viola riviniana* and Annual Mercury *Mercurialis annua*, along with amenity bulbs including Spanish Bluebell *Hyacinthoides hispanica* and Daffodils *Narcissus pseudonarcissus*.

4.5.4 Grassland **G2**, located within the south-west of the site, forms a former outdoor bowling green. This grassland did not appear to have been subject to any form of management at the time of the survey such that a sward height of approximately 20-30cm in height was recorded. The sward itself was recorded to be dominated by Red Fescue *Festuca rubra* with very occasional tussocks of Yorkshire-fog. Occasional herb species were recorded to be present, including Ribwort Plantain, Dandelion, Common Ragwort, Common Vetch *Vicia sativa* and Cat's-ear *Hypochaeris radicata*.

4.5.5 Grassland **G3**, located within the far west of the site, was recorded to support a tussocky grassland sward to a height of 20-30cm. This grassland was also noted not to have been subject to any recent management such that a developing thatch layer was observed. The northern section of this grassland was recorded to be associated with a south-facing bank, which was recorded to be dominated by grass species present within the other grassland areas within the site, with very few herb species recorded save for occasional Dove's-foot Cranes-bill and Ribwort Plantain, along with Red Dead-nettle, Common Ragwort, Common Sorrel, Yarrow and Cat's-ear.

4.5.6 Grassland **G4**, located within the immediate vicinity of the factory buildings, was recorded to be dominated by Perennial Rye-grass, with few herb species.

Evaluation

4.5.7 Overall, the grassland habitats within the site support a low diversity of common and widespread species, in line with their former amenity use. Based on the type and abundance of species present, it is considered that the grasslands are consistent with semi-improved grassland[14], a habitat type that is not uncommon in the local area. As such, the grassland is considered to be of relatively low ecological value at the local level. The loss of grassland to the proposals is therefore of minor ecological significance.

4.6 Trees, Scrub and Amenity Planting

Description

4.6.1 A number of trees and shrubs are present within the site, along with small amounts of scattered scrub. These are largely associated with amenity planting and are concentrated within the southern part of the site and at the site margins, as shown on Plan 4684/ECO3.

4.6.2 Trees were recorded to be dominated by semi-mature Beech *Fagus sylvatica*, along with a small number of Silver Birch *Betula pendula*, Oak *Quercus* sp., Sycamore *Acer pseudoplatanus*, Hawthorn *Crataegus monogyna* and Cherry *Prunus* sp.. These trees

[14] Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

varied from young to mature in age, although were recorded to be of a largely ornamental nature in line with their amenity surroundings.

4.6.3 Amenity planting was observed to comprise largely of shrubs along with some ornamental herbs, with Holly *Ilex aquifolium*, Cherry Laurel *Prunus laurocerasus*, Willow *Salix* sp., Elder *Sambucus nigra*, Rose *Rosa* sp., Yew *Taxus baccata*, Bay *Laurus nobilis*, *Photinia* sp., Grape Hyacinth *Muscari neglectum*, Dogwood *Cornus sanguinea*, *Mahonia* sp., *Magnolia* sp., Flowering Currant *Ribes sanguineum*, Hellebore *Helleborus* sp., *Hebe* sp., Californian Lilac *Ceanothus* and Rosemary *Rosmarinus officinalis* recorded.

4.6.4 Scrub at the site was largely limited to small amounts of scattered Bramble *Rubus fruticosus* agg. and Silver Birch scrub, largely located at the northern boundary and associated with outgrown amenity planted areas.

Evaluation

4.6.5 The south eastern corner of the site has been categorised on Natural England's MAGIC database as supporting the Priority Habitat Broadleaved Woodland. However, given the lack of an understorey and the highly managed ground flora which comprises mown grassland and amenity planting, a more appropriate description of this habitat is considered to be trees with grassland and amenity planting. It is therefore considered that this area does not comprise a Priority Habitat. In any event this area is fully retained under the proposals (see Appendix 4684/1).

4.6.6 Standard trees at the site, particularly those recorded to be mature in nature (largely restricted to the south east of the site), are generally of a substantial size and of some ecological interest in their own right, in addition to providing amenity value. As such, they are considered to be of at least moderate ecological value at the local level.

4.6.7 Other trees at the site are generally smaller in size being young to semi-mature in nature. These trees are generally of limited ecological interest and as such are considered to be of low ecological value at the local level.

4.6.8 The amenity planting and scrub at the site is limited in extent and largely comprises ornamental and non-native species. As such, these habitats are considered to be of no more than low ecological value at the site level.

4.7 Grand Union Canal (Offsite)

Description

4.7.1 The Grand Union Canal (subject to non-statutory designation as a SMINC), is located adjacent to the northern site boundary. The boundary is marked by wooden close boarded fencing of approximately 2m in height, with hardstanding and factory buildings located along the site edge. The canal was recorded to measure approximately 15m in width adjacent to the site.

Evaluation

4.7.2 The section of the Grand Union Canal located adjacent to the site, being subject to non-statutory designation as a SMINC, is considered to be of moderate ecological value at the district level. However, this designation is located entirely offsite and will therefore not be subject to land-take associated with the proposals. Nevertheless, in the absence of mitigation there is potential for the proposals to degrade this habitat through pollution and run off, as discussed at Section 3. As such, a number of recommendations are made at Section 6 to prevent and mitigate for any such effects.

4.8 Invasive Species

Description

4.8.1 A number of Buddleja *Buddleja davidii* bushes were recorded within the amenity planting as well as colonising plants elsewhere within the site.

Evaluation

4.8.2 Whilst no species listed on Schedule 9 of the Wildlife and Countryside at (as amended) 1981 were recorded at the site, Buddleja is listed under Category 4 of the London Invasive Species Initiative. Recommendations for safe removal of this species are included at Section 6.

4.9 Habitat Evaluation Summary

4.9.1 A summary of the evaluation of the habitats present at the site is set out at Table 4.1 below.

Table 4.1. Summary of habitat evaluation.

Habitat	Value	Level
Buildings and Hardstanding	Negligible	Local
Grassland	Low	Local
Established Trees	Moderate	Local
Other Trees, Scrub and Amenity Planting	Low	Site
Grand Union Canal (Offsite)	Moderate	District
Invasive Species	Detrimental	Local

5 Faunal Use Of The Site

5.1 Overview

5.1.1 During the survey work, general observations were made of any faunal use of the site with specific attention paid to the potential presence of protected or notable species. Specific survey work was undertaken in respect of bats and Badger, with the results described below.

5.2 Priority Species

5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Sections 41 and 42 of the NERC Act require the Secretary of State to publish a list of species which are of principal importance for conservation in England and Wales, respectively. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

5.2.2 During the survey work undertaken, the UK Priority Species Soprano Pipistrelle *Pipistrellus pygmaeus* and Dunnock *Prunella modularis* were recorded within the site. This is discussed further below.

5.3 Bats

5.3.1 **Legislation.** All British bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2010 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 4684/5 for detailed provisions). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. A number of bat species are also considered Priority Species.

5.3.2 **Background Records.** No specific records of bats from within or adjacent to the site were returned from the desktop study. Information received from the LRC returned records of Daubenton's Bat *Myotis daubentonii,* Noctule Bat *Nyctalus noctula*, Brown Long-eared Bat *Plecotus auritus,* Common Pipistrelle *Pipistrellus pipistrellus,* Soprano Pipistrelle, Pipistrelle bat species *Pipistrelle* sp. and unknown bat species within 3km of the site. The closest record is for a Brown Long-eared roost, recorded in 1998, located approximately 800m to the south of the site.

5.3.3 **Survey Results**

Visual Inspection Surveys

Buildings

5.3.4 A large number of buildings are present within the site, comprising the main factory buildings, along with offices buildings, sports facilities and plant rooms. A detailed

visual inspection was undertaken of all the buildings within the site, the results of which are set out at Appendix 4684/4, and summarised below.

5.3.5 As set out at Appendix 4684/4, the majority of the buildings comprise factory and office buildings. An external assessment of these buildings was carried out, together with an internal inspection of internal areas where access was available, although they generally lacked enclosed voids such as roof spaces. The majority of these buildings and structures are considered to offer negligible roosting opportunities for bats, whilst no evidence of roosting bats was recorded. As such, it is considered that the loss of these buildings to the proposals would be of no significance to this species group.

5.3.6 However, two buildings (buildings B1 and B3 on Plan 4684/ECO3) were recorded to support external features with the potential to support roosting bats, as summarised below:

5.3.7 *Building B1 (squash court).* This building was recorded to support a flat, sloping roof with asbestos cladding on the uppermost part of the walls. Within this asbestos cladding, a single crack was recorded on the eastern facade of the building, along with potential access gaps at the edges where the cladding and the walls meet. No evidence for the presence of roosting bats was recorded both internally and externally, whilst no internal void was observed to be present. However, the external features provided by the asbestos cladding are considered to provide some minor opportunities for summer roosting. Accordingly, this building is considered to be of **low potential** to roosting bats.

5.3.8 *Building B3 (bowling green pavilion).* This building was recorded to support a flat roof with wooden bargeboarding. This bargeboarding was recorded to be in a poor state of repair, with rot holes present in places, most notably at the south west corner, providing access into a small cavity. On this basis, this building is considered to be of **low potential** to roosting bats.

Trees

5.3.9 Trees within the site were subject to inspections for presence of features offering potential for roosting bats, such as rot holes, cracks, splits, loose bark or dense Ivy cover and were assessed as being of high, moderate, low or negligible roosting potential, following the methodology outlined in the Bat Conservation Trust survey guidelines[15].

5.3.10 The majority of trees within the site were recorded to be in relatively good health and lacking any particular features likely to be of value for roosting bats (negligible potential).

5.3.11 Nevertheless, a small number of trees were noted to be of potential value to support roosting bats as shown at Plan 4684/ECO3.

[15] Bat Conservation Trust (2016) '*Bat Surveys – Good Practice Guidelines*'.

Dusk and Dawn Surveys

Emergence / re-entry surveys

5.3.12 Following the building inspections, dusk emergence and dawn re-entry survey work was undertaken in relation to buildings B1 and B3. The results of this survey work are shown on Plan 4684/ECO4 and summarised in Table 5.1 below.

Table 5.1: Emergence / re-entry survey results.

Building	Date	Sunset/ sunrise	Emergence/ re-entry	Summary of other activity
B1	16 May 2016 (dusk)	Sunset: 20.48	None	Nine registrations of Common Pipistrelle along with four registrations of Soprano Pipistrelle were recorded during the course of the survey, with bats recorded foraging and commuting to the south and east of building B1.
	17 May 2016 (dawn)	Sunrise: 05.07	None	One Common Pipistrelle and two Soprano Pipistrelle registrations were recorded throughout the dawn survey, with bats foraging and commuting to the south of the buildings.
B3	16 May 2016 (dusk)	Sunset: 20.48	None	Very occasional passes and brief foraging activity by Common Pipistrelle bats.
	17 May 2016 (dawn)	Sunrise: 05.07	None	Very occasional passes and brief foraging activity by Common Pipistrelle bats.

5.3.13 Particular attention was also paid to the potential presence of bat roosts within trees during the bat emergence / re-entry surveys of the site. During these surveys, no bats were recorded to be utilising trees to the east of building B1 as roosts.

Activity surveys (foraging /commuting)

5.3.14 Immediately following and preceding the emergence / re-entry surveys, the opportunity was taken to carry out a rapid activity survey of the entire site in order to ascertain the level of usage of the site by foraging or commuting bats and to inform the requirement for more substantial activity survey work. During the dusk activity survey, a small number of passes by Common Pipistrelle bats were recorded along the Grand Union Canal to the north of the site, whilst no bats were recorded during the pre-dawn walkover survey. The site was recorded to be subject to high levels of flood lighting during these surveys, which likely reduces the value of the site to foraging and commuting bats.

5.3.15 **Evaluation**

Roosting

Buildings

5.3.16 Buildings B1 and B3 were assessed as providing some minor opportunities for roosting bats, largely due to cracks or openings within the external surfaces of the

buildings. However, no evidence for the presence of roosting bats was recorded during the inspections surveys of these buildings, whilst further survey work in the form of emergence / re-entry surveys recorded no evidence of current use by this species group. As such, there is no evidence to suggest that buildings B1 and B3 are utilised by bats as roosts.

5.3.17 On this basis, it is considered that specific mitigation or licensing for bats in respect of buildings is not required. Nonetheless, bats are dynamic animals and as such it remains possible that individuals could colonise the site in the future. Natural England guidance in respect of European Protected Species[16] such as bats advises that, even where proposals are reasonably unlikely to result in any offence, such that licensing is not required, reasonable precautions should be taken to minimise the risk to protected species in the unlikely event that they should be found during the course of the activity. Accordingly, recommended precautionary mitigation measures are set out at Section 6 below. Subject to their implementation, it is considered that bats will be fully safeguarded under the proposals.

5.3.18 The remaining buildings within the site were not considered to provide any specific opportunities for roosting bats, whilst given the very low levels of bat activity in general across the site and the nature of these buildings, it is considered unlikely that bats would utilise these buildings for roosting.

Trees

5.3.19 It is understood that all trees with potential bat roosting features are to be retained under the proposals, such that in the event that bats are present within the trees they will remain unaffected as a result of works. As such, subject to the implementation of the recommendation outlined at Section 6 below in relation lighting during the occupational stage of the development, it is considered that bats will be fully safeguarded under the proposals.

Foraging / Commuting[17]

5.3.20 As noted above, the offsite Grand Union Canal and railway line bounding the site have the potential to offer some foraging and commuting habitat for bats. However, very low levels of bat activity was recorded during the survey work at the site, with only brief foraging and commuting passes by common bat species recorded, likely due in part to the level of flood lighting present across the site. As such, the site is considered to be of no more than low value to foraging and commuting bats.

5.3.21 Under the proposals, the landscaping scheme will have the potential to provide enhanced opportunities for bats over the current situations, particularly along the Grand Union Canal which is currently devoid of vegetation and subject to high levels of overnight floodlighting. Opportunities to maximise the ecological value of the landscaping scheme is set out at Section 6.

5.3.22 Subject to the implementation of the recommendations outlined at Section 6 below, it is considered that the conservation status of local bat populations will be fully

[16] Natural England (2013) *'European Protected Species: Mitigation Licensing - How to get a licence (WML-G12)'*

[17] The valuation of foraging and commuting habitat is based broadly on the approach described in: Wray S, Wells D, Long E & Mitchell-Jones T (2010) '*Valuing bats in ecological impact assessment*', In Practice, No. 70, Institute of Ecology and Environmental Management

safeguarded under the scheme, with opportunities to provide an enhancement at the site over the current situation.

5.4 Badger

5.4.1 **Legislation:** Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 4684/5 for detailed provisions). The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.

5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance. [18, 19]

5.4.3 **Background Records:** Two records of Badger were returned from within the 3km search area as part of the background data returned from GiGL, with the most recent of which being from May 2014. However, as Badger records remain confidential to protect them from persecution, no geographical context for these records is available.

5.4.4 **Survey Results and Evaluation.** No confirmed Badger setts were found within or immediately adjacent to the site, nor were any direct evidence of Badger recorded during the survey work at the site. In addition, given the nature of the site and its urban location, it is considered unlikely that the site is of any elevated importance for Badger, should they be present within the local area. Accordingly, this species is unlikely to be adversely affected by the proposals.

5.5 Other Mammals

5.5.1 **Legislation.** A number of other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). In addition, a number of these mammal species are Priority Species.

5.5.2 **Background Records.** No specific records of other mammals from within or adjacent to the site were returned from the desktop study. A number of records of Hedgehog *Erinaceus europaeus* (Priority Species) were returned from within the search area around the site, the nearest of which was located approximately 450m to south-west of the site and dated 2009. Records of Water Vole were also returned as part of the desktop study, the nearest of which was recorded approximately 900m to the north of the site, dated 2009.

5.5.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the site. Other mammal species likely to utilise the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context, and as mentioned above do not receive specific legislative protection in a development context. As such, these species are not a material planning

[18] English Nature (2002) '*Badgers and Development*'
[19] Natural England (2011) '*Badgers and Development: A Guide to Best Practice and Licensing*', Interim Guidance Document

consideration and the loss of potential opportunities for these species to the proposals is of negligible significance.

5.5.4 The desktop study returned background records of Hedgehog within the surrounding area. Hedgehog is a Priority Species, albeit this species remains common and widespread in England. The site offers potential opportunities for this species, particularly in the form of areas of denser amenity planting and semi-improved grassland, although these areas are small in extent and relatively isolated from other suitable habitats. In any event, abundant similar opportunities are present within the local area and there is no evidence to suggest the proposals will significantly affect local populations of this species. However, it is recommended that precautionary safeguards are put in place to minimise the risk of harm to Hedgehog in the event this species is present, as detailed in Section 6 below.

5.5.5 The desktop study also returned records of Water Vole from within the wider surrounds of the site. However, the site provides no potential opportunities for this species, whilst there is no evidence to suggest that this species is present within the Grand Union Canal, bounding the northern site boundary (even if it were, Water Voles would be highly unlikely to venture into the site). As such, this species (and other riparian species such as Otter *Lutra lutra*) is considered unlikely to form an ecological constraint to the proposals.

5.6 Amphibians

5.6.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2010 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 4684/5 for detailed provisions). Great Crested Newt is also a Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*.

5.6.2 **Background Records.** No specific records of Great Crested Newt were returned from within the 3km search area as part of the desktop study. Records of Common Frog Rana temporaria and Common Toad were returned, with the closest relating to Common Frog, located approximately 600m to the south west of the site.

5.6.3 **Survey Results and Evaluation.** No waterbodies suitable for Great Crested Newts were identified within the site during the Phase 1 survey.

5.6.4 Amphibians, including Great Crested Newt, can range some distance from their breeding ponds, although typically the majority of activity with regard to this species is centred within 100 metres of the breeding pond with a maximum routine range of no more than 250 metres from the breeding pond. A review of the 1:25 000 scale OS map of the site and surrounding area, along with other available mapping, has identified no waterbodies within the range. Indeed, the nearest identifiable waterbody to the site is located approximately 740m to the west of the site. On this basis, Great Crested Newt, along with other amphibians, is not considered to form an ecological constraint to the proposals.

5.7 Reptiles

5.7.1 **Legislation**. All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2010 (as amended); refer to Appendix 4684/5 for detailed provisions. All six reptile species are also Priority Species.

5.7.2 **Background Records.** No specific records of reptiles from within or adjacent to the site were returned from the desktop study. Records of both Grass Snake *Natrix natrix* and Slow-worm *Anguis fragilis* were returned from the 3km search area, located approximately 1.3km and 1.2km to the north of the site, and dated 2005 and 2012 respectively.

5.7.3 **Survey Results and Evaluation.** No evidence for the presence of reptiles was recorded from within the site during the Phase 1 survey. The site does provide some minor opportunities for reptile species in the form of semi-improved grassland and denser amenity planting, albeit these habitats are limited in extent and are isolated from other suitable habitat. Notably, the site itself is located within a heavily urbanised setting, and although there is some minor potential for reptiles to be utilising any colonising vegetation present along the railway line and canal corridor which bound the site, no suitable habitat for reptiles is present within the site immediately adjacent to these offsite features. On this basis, it is considered highly unlikely that reptiles are present within the site, and therefore reptiles are not considered likely to form an ecological constraint to the proposals.

5.8 Birds

5.8.1 **Legislation.** All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 4684/5 for detailed provisions).

5.8.2 **Conservation Status.** The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status[20]. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species.

5.8.3 **Background Records.** No specific records of birds were returned from within or adjacent to the site were returned from the desktop study. Information returned from GiGL returned records for several bird species from within the 3km search area around the site, the closest of which relates to Kestrel *Falco tinnunculus*, located approximately 315m to the north-west of the site, dated 2009.

[20] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) *'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man'* British Birds *108*, pp.708-746

5.8.4 **Survey Results.** Several species of bird were observed within the site during the Phase 1 survey including: Wood Pigeon *Columba palumbus*, Ring-necked Parakeet *Psittacula krameri,* Magpie *Pica pica*, Dunnock, Blackbird *Turdus merula*, Feral Pigeon *Columba livia domestica*, Lesser Black-backed Gull *Larus fuscus*, Carrion Crow *Corvus corone*, Greenfinch *Chloris chloris*, Blue Tit *Cyanistes caeruleus*, Robin *Erithacus rubecula,* Wren *Troglodytes troglodytes* and Goldfinch *Carduelis carduelis.*

5.8.5 **Evaluation.** Most of the birds recorded at the site are not listed as having any special conservation status, although Lesser Black-backed Gull and Dunnock are included on the Amber list as a result of declines in UK breeding populations, whilst Dunnock is also a Priority Species. However, the habitats present are common in the surrounding area and there is no evidence to suggest the site is of elevated value at a local level for these species, which in any case, are common in Great Britain[21]. The proposals will result in the loss of woody vegetation in the form of amenity shrub planting and built structures, which could potentially affect any nesting birds that may be present at the time of works. According, a number of safeguards in respect of nesting birds are proposed, as detailed in Section 6 below. In the long-term, the proposals have the potential to provide new nesting opportunities for birds, whilst an ecologically designed landscape strategy will increase foraging opportunities, as set out in Section 6 below.

5.9 Invertebrates

5.9.1 **Legislation.** A number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2010 (as amended); refer to Appendix 4684/5 for detailed provisions. A number of invertebrates are also Priority Species.

5.9.2 **Background Records.** No specific records of invertebrates were returned from within or adjacent to the site. A number of Priority Species were returned from the wider survey area including Stag Beetle *Lucanus cervus*, the closest record of which is located approximately 1.3km to the west of the site, dated 2006.

5.9.3 **Survey Results and Evaluation.** No evidence for the presence of any protected, rare or notable invertebrate species was recorded within the site. The site is dominated by buildings and hardstanding, along with small areas of semi-improved grassland and amenity planting, which are likely to support only a limited diversity of invertebrates. Accordingly, given the habitat composition of the site and lack of adjacent areas designated for significant invertebrate interest, it is considered unlikely that the proposals will result in significant harm to any protected, rare or notable invertebrate populations.

[21] Population estimates of birds in Great Britain and the United Kingdom. Musgrove *et al*., British Birds, 2013

5.10 Summary

Table 5.1: Summary of faunal evaluation.

Species / Group	Value	Level
Bats – Roosting	Negligible - Low	Local
Bats – Foraging / Commuting	Negligible - Low	Local
Badger	Negligible	Local
Other Mammals	Low	Local
Amphibians	Negligible	Local
Reptiles	Negligible	Local
Birds	Negligible - Low	Local
Invertebrates	Negligible	Local

6 Mitigation Measures and Ecological Enhancements

6.1 Mitigation

6.1.1 Based on the habitats, ecological features and associated fauna identified within / adjacent to the site, it is recommended that the following mitigation measures (**MM1 – 10**) are implemented under the proposals. Further, detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2013).

General Construction Safeguards

6.1.2 **MM1 – General Construction Safeguards.** In order to reduce adverse effects associated with construction activities on retained habitats, along with any animals that may be present, a number of general safeguarding measures should be implemented, including the following:

- Damping down of dust sources and covering of loose materials to minimise any potential dust deposition within adjacent habitats;
- Storage of chemicals and hazardous materials should be in line with best practice guidelines, ensuring that they are kept secure and away from the site boundaries and cannot be accessed or knocked over by roaming animals;
- Fires will only be lit in secure compounds and not allowed to remain lit during the night; and
- Any excavations or deep pits within the site that are to be left open overnight should be provided with a means of escape should mammals enter. This could simply be in the form of a roughened plank of wood placed in the pit as a ramp to the surface. Any such excavations or pits should be inspected each morning to ensure no animals have become trapped overnight.

Trees

6.1.3 **MM2 – Tree Protection.** All trees to be retained within the proposed development shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees.

Grand Union Canal

6.1.4 **MM3 – Pollution prevention.** In order to safeguard against any potential run-off or pollution events during construction, best management practice will be followed in accordance with the advice issued by the Environment Agency in its Pollution Prevention Guidelines[22] or relevant updated documents. This will essentially reduce potential pollution effects to nil, minimising any harm to wildlife associated with the Grand Union Canal. This will include relevant safeguards such as:

- Briefing of construction staff on the sensitivity of the canal corridor and the need to avoid activities which could result in detrimental effects on it;

[22] Primarily: Environment Agency (2012) *'Working at construction and demolition sites: PPG6 Pollution Prevention Guidelines'*, 2nd Edition

- Storage areas for chemicals, fuels, etc. will be sited well away from the canal, and stored on an impervious base within an oil-tight bund with no drainage outlet;
- Where possible, and with prior agreement of the sewage undertaker, silty water should be disposed of to the foul sewer;
- Water washing of vehicles, particularly those carrying fresh concrete and cement, mixing plant, etc. will be carried out in a contained area as far from the canal as practicable, to avoid contaminated water entering this habitat;
- Refuelling of plant will take place in a designated area, preferably on an impermeable surface; and
- A procedure for checking and corrective action should be put in place to ensure any spillages within the site are safely cleared up.

6.1.5 Post-development, the drainage system for the development will ensure the canal is not subject to adverse changes in surface water run-off or quality.

Exotic Plant Species

6.1.6 **MM4 – Removal of exotic plant species.** Numerous Buddleja plants were recorded within the site. This species is listed under Category 4 of the London Invasive Species Initiative, which states '*Species which are widespread for which eradication is not feasible but where avoiding spread to other sites may be required*'. As such, all relevant precautions should be taken during works at the site in order to prevent the potential spread of this species including uprooting such plants and disposing of appropriately (e.g. burning) prior to any clearance works.

Lighting Scheme

6.1.7 **MM5 – Wildlife-friendly lighting scheme.** The effects of lighting vary between species, with some bat species such as Common Pipistrelle and Soprano Pipistrelle able to cope with relatively high light levels (of up to 14 lux) (Fure, 2006)[23] and known to utilise lights as a foraging focus for insects attracted to lights (BCT, 2009)[24]. However, many bat species (particularly late emerging species such as Brown Long-eared and Myotis bats) will avoid lit areas, and attraction of insects to lit areas can result in adjacent habitats supporting reduced numbers of insects, further impacting on the ability of bats being able to feed.

6.1.8 To minimise the effects of lighting on habitats utilised by bats (and other nocturnal species) within and around the housing area, it is recommended that consideration is given to the detailed lighting design, with measures adopted to minimise light spill into open space areas and around the margins of the site, particularly the Grand Union Canal to the north. This may include low-level bollard lighting, and screening with buildings and vegetation to soften the effects of light sources.

Bats

6.1.9 **MM6 – Update survey.** Should any considerable time (e.g. >12 months) elapse between the survey work detailed above and any development works, a further survey of the buildings with potential to support roosting bats (i.e. buildings B1 and B3) should be undertaken prior to the commencement of works to confirm the

[23] Fure, A. (2006) *Bats and Lighting.* The London Naturalist: No. 85.
[24] Bat Conservation Trust (2009) Bats and Lighting.

continued absence of bats. Such survey work could be undertaken during the period April – October inclusive, although the optimum survey period is May – September inclusive.

6.1.10 **MM7 – Demolition of buildings with bat roosting potential.** Demolition of buildings with potential to support or conceal roosting bats, namely buildings B1 and B3, should be undertaken under an appropriate watching brief. Should any bats be encountered, works would need to stop and Aspect Ecology contacted so that suitable mitigation can be agreed prior to works re-commencing. This may potentially involve discussion with Natural England and acquisition of a development licence for works to resume.

6.1.11 **MM8 - Bat Potential Tree Safeguards.** As set out above, a number of trees have been identified as supporting features with potential value to roosting bats (as detailed on Plan 4684/ECO3). It is understood that all trees identified as having moderate or higher bat roosting potential are not required to be lost specifically under the proposals. However, a small number of these trees may require arboricultural management in terms of health and safety. As such, where trees identified as supporting roosting bat potential are required to be managed, these trees will be subject to further survey work at the appropriate stage to inform such management, if required.

6.1.12 Furthermore, should the proposals change and any trees which supports bat roosting potential are scheduled to be lost, a precautionary approach should be taken in regard to their removal. Trees identified as having moderate or higher bat roosting potential should be subject to survey work in the form of emergence/re-entry surveys or tree climbing surveys, whilst trees with low bat roosting potential should be removed through 'soft-felling' techniques and felled in sections which are lowered and cushioned to reduce any potential effects caused by hard impact with the ground. Felled limbs would ideally be left on the ground at the site overnight to allow any bats to escape in the unlikely event they are present.

Hedgehog

6.1.13 **MM9 – Hedgehog Safeguards.** A number of habitats within the development zone provide potential foraging and shelter opportunities for Hedgehog, largely in the form of grassland and ornamental planting. The majority of these suitable habitats are retained under the proposals. However, it is recommended that precautionary safeguards are put in place where suitable vegetation is to be cleared, with clearance of suitable habitat carried out under a watching brief maintained by site contractors.

6.1.14 It is recommended that any tall vegetation is reduced in height, through staged strimming with any arisings removed outside of extreme weather, where possible. Care should be taken when dismantling / removing any brash piles, rubble piles or areas of strimmed vegetation from the survey area, before any ground works commence, to ensure that any species utilising the survey area have safely dispersed to offsite habitats. In the unlikely event that a Hedgehog is encountered during works, it should be carefully moved to an area of retained, suitable habitat (preferably within an area of cover). In the event that an injured animal is encountered, this should be taken to a vet or animal hospital for treatment.

6.1.15 It is also recommended that the permeability of the site be maintained under the proposals. As such, cut-outs at ground level should be introduced to garden fences

as to ensure Hedgehog and other small mammals are able to move freely between new gardens.

Nesting Birds

6.1.16 **MM10 – Timing of Works.** To avoid a potential offence under the Wildlife & Countryside Act, no clearance of suitable vegetation should be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable, any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified would then need to be cordoned off (minimum 5m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance.

6.2 Ecological Enhancements

6.2.1 The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities and the local Biodiversity Action Plan (BAP).

6.2.2 The recommendations and enhancements summarised below are considered appropriate given the context of the site and the scale and nature of the proposals. Due regard has also been given to London Heathrow and its associated airspace safeguarding zone, particularly with regard to birds and the potential for bird-strike, and it is considered the following enhancements comply with the design recommendations provided by the London Heathrow Airport Safeguarding Team. Any ecological enhancements to be incorporated into the scheme will be subject to prior approval by London Heathrow.

6.2.3 Through implementation of the following ecological enhancements (**EE1** – **EE6**), the opportunity exists for the proposals to deliver a number of net gains for biodiversity at the site.

Habitat Creation

6.2.4 **EE1 – New Planting.** It is recommended that where practicable, new planting within the site be comprised of native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within the planting could include native trees such as Birch, Hazel and Field Maple. In line with the recommendations set out by the London Heathrow Airport Safeguarding Team, berry-bearing species which could provide a potential food source for birds should be avoided, whilst the planting scheme as a whole will be subject to prior approval from London Heathrow.

6.2.5 **EE2 – Green/Brown Roofs.** To maximise benefits for invertebrates and other wildlife species, a green/brown roof system could be provided associated with the new buildings at the site, comprised of shallow, low nutrient substrates, subject to agreement from London Heathrow. The resulting environmental conditions are well suited to the growth of low growing hardy species, whilst varying substrate depth can

support a greater diversity of plants and associated biodiversity. These roofs will be designed to minimise attraction to birds which are a cause for concern to London Heathrow Airport as a result of bird-strike, namely Gulls, Pigeon, Rook species and Starling. Further information is provided at Appendix 4684/6.

6.2.6 **EE3 – Wildflower Grassland.** It is recommended that areas of wildflower grassland are created within the site such that, in combination with new native landscape planting, opportunities for biodiversity will be maximised under the proposals. The location and extent of wildflower grassland will be subject to prior approval from London Heathrow.

6.2.7 **EE4 – Canal-side Enhancements.** An area of green space is to be incorporated along the bank of the adjacent canal, thereby enhancing the ecological value of this feature for a range of wildlife, in line with local planning policy. Where possible, this area should be planted with native tree and shrub species, and wildflower grassland, as set out above.

Bats

6.2.8 **EE5 - Bat Boxes.** A number of bat boxes, such as Schwegler 2F or 1FF (see Appendix 4684/7 for specifications), should be incorporated within the proposed development. The provision of bat boxes would provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle, a national Priority Species. So as to maximise their potential use, the bat boxes should ideally be situated on suitable retained trees, erected as high up as possible and sited in sheltered wind-free areas that are exposed to the sun for part of the day, facing a south-east, south or south-westerly direction.

6.2.9 In addition, where architectural design allows, a number of integrated bat boxes / roost features could be incorporated into a proportion of the new build, such as Weinerberger bat boxes (see Appendix 4684/7 for specifications). The precise number and locations of boxes / roost features should be determined by a competent ecologist, post-planning once the relevant final development design details have been agreed, and subject to approval from London Heathrow.

Birds

6.2.10 **EE6 - Bird Boxes**. A number of bird nesting boxes, such as Schwegler 1B (see Appendix 4684/7 for specifications) should be incorporated within the proposed development, thereby increasing nesting opportunities for smaller bird species at the site, such as Robin, Wren and House Sparrow (these boxes will not form suitable nesting opportunities for species highlighted by the London Heathrow Airport Safeguarding Team as being a cause for concern regarding bird-strike, namely Gulls, Pigeon, Rook species and Starling).

6.2.11 Ideally, the bird boxes will have greater potential for use if sited on suitable, retained trees, situated as high up as possible. The precise number and locations of boxes should be determined by a competent ecologist, post-planning once the relevant final development design details have been agreed, and subject to approval from London Heathrow.

7 Conclusions

7.1 Aspect Ecology has carried out an ecological appraisal of the proposed development, based on the results of a desktop study, Phase 1 habitat survey and a number of detailed protected species surveys.

7.2 The available information confirms that no statutory or non-statutory nature conservation designations are present within the site, and none of the designations within the surrounding area are likely to be adversely affected by the proposals.

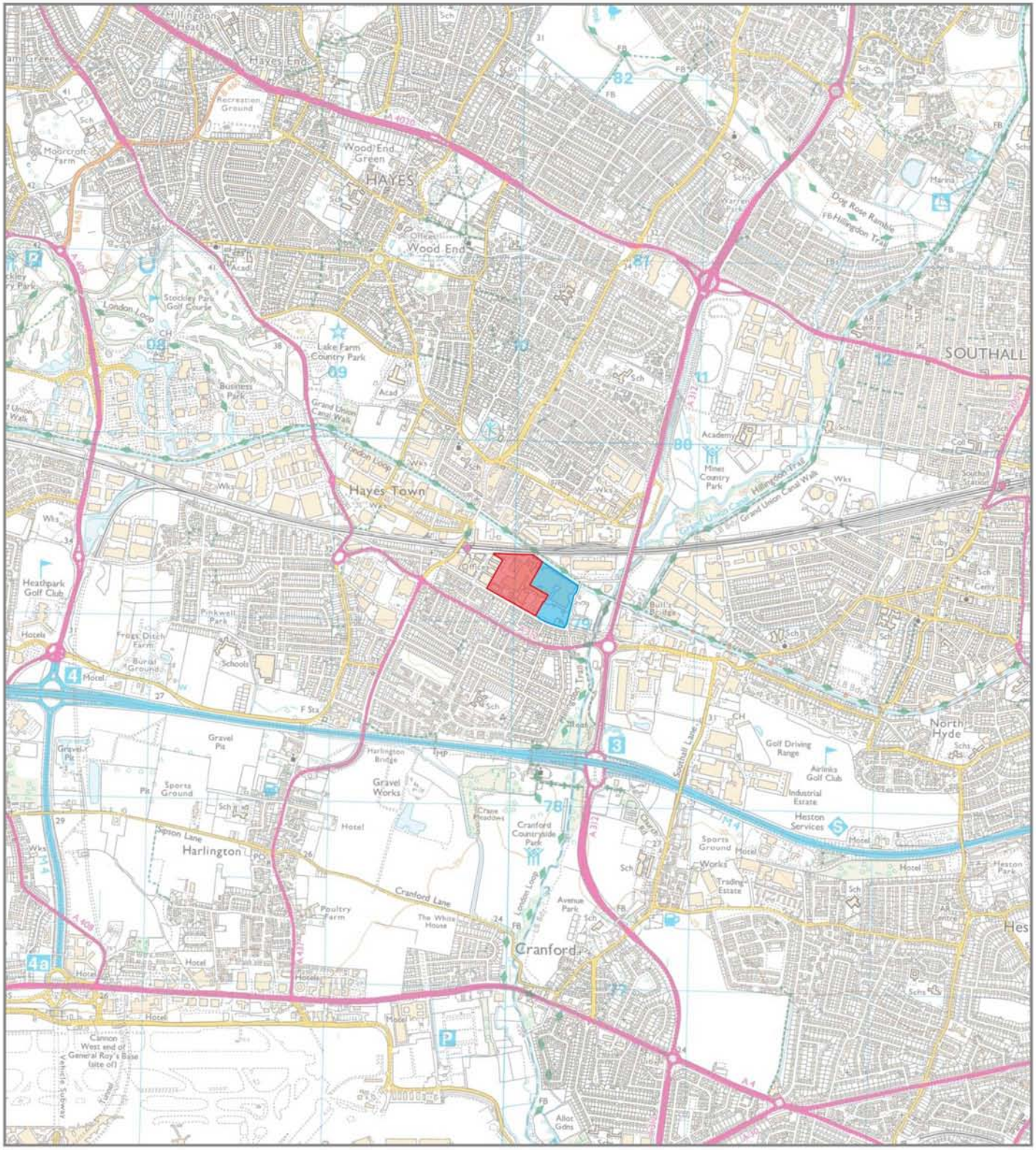
7.3 The Phase 1 habitat survey has established that the site is dominated by habitats of largely negligible to low ecological value and the proposals have sought to retain those features of greatest relative value. Where it has not been practicable to avoid loss of habitats, new habitat creation has been proposed to offset losses, in conjunction with the landscape proposals.

7.4 The habitats within the site support low levels of foraging and commuting bats, whilst the site also has the potential to support the protected species Hedgehog and nesting birds. Accordingly, a number of mitigation measures have been proposed to minimise the risk of harm to protected species, with compensatory measures proposed, where appropriate, in order to maintain the conservation status of local populations.

7.5 In conclusion, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm to biodiversity. On the contrary, the opportunity exists to provide a number of net gains in biodiversity as part of the proposals.

Plan 4684/ECO1:

Site Location



Key:

- Site Location
- SEGRO Scheme Location

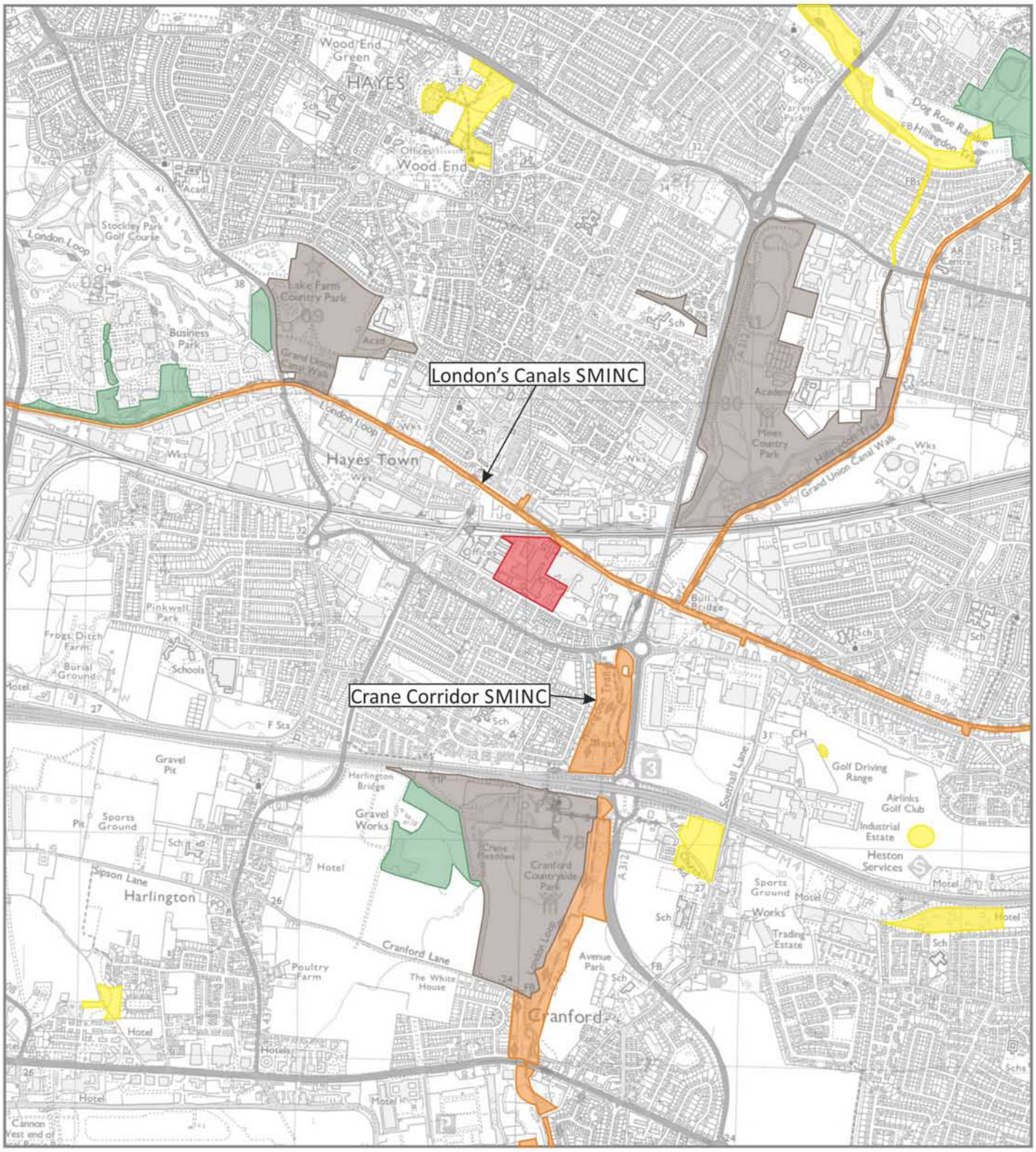
aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Former Nestle Factory, Nestle's Avenue, Hayes	PROJECT
Site Location	TITLE
4684/ECO1	DRAWING NO.
-	REV.
January 2017	DATE

Plan 4684/ECO2:

Ecological Designations



Key:

- Site Location
- Site of Metropolitan Interest to Nature Conservation (SMINC)
- Site of Borough (Grade 1) Interest to Nature Conservation (SBINC - 1)
- Site of Borough (Grade 2) Interest to Nature Conservation (SBINC - 2)
- Site of Local Interest to Nature Conservation (SLINC)

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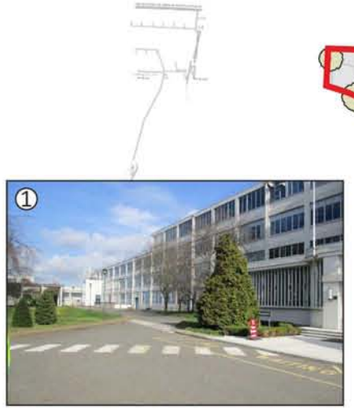
Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Former Nestle Factory, Nestle's Avenue, Hayes	PROJECT
Ecological Designations	TITLE
4684/ECO2	DRAWING NO.
-	REV.
January 2017	DATE

Plan 4684/ECO3:

Habitats and Ecological Features



KEY:

- Site Boundary
- Building
- Hardstanding
- Grassland
- Tree
- Scrub
- Amenity Planting
- Grand Union Canal (Offsite)
- Photograph Location

Tree with Potential to Support Roosting Bats

- Medium Potential
- Low Potential

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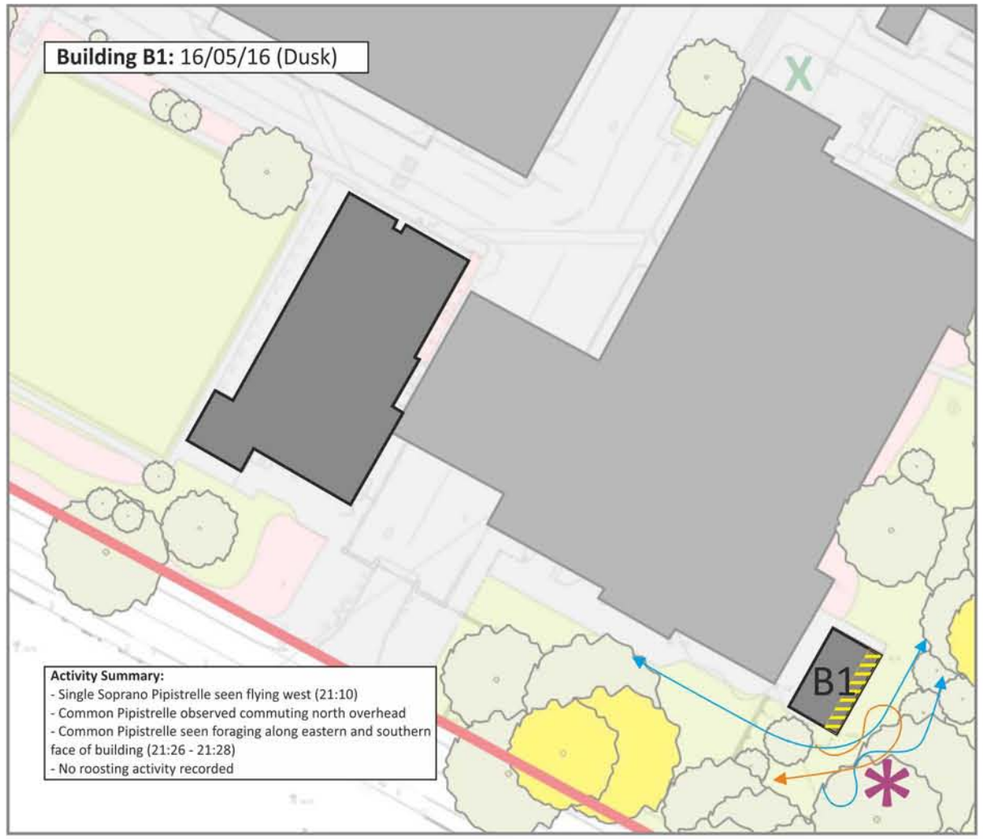
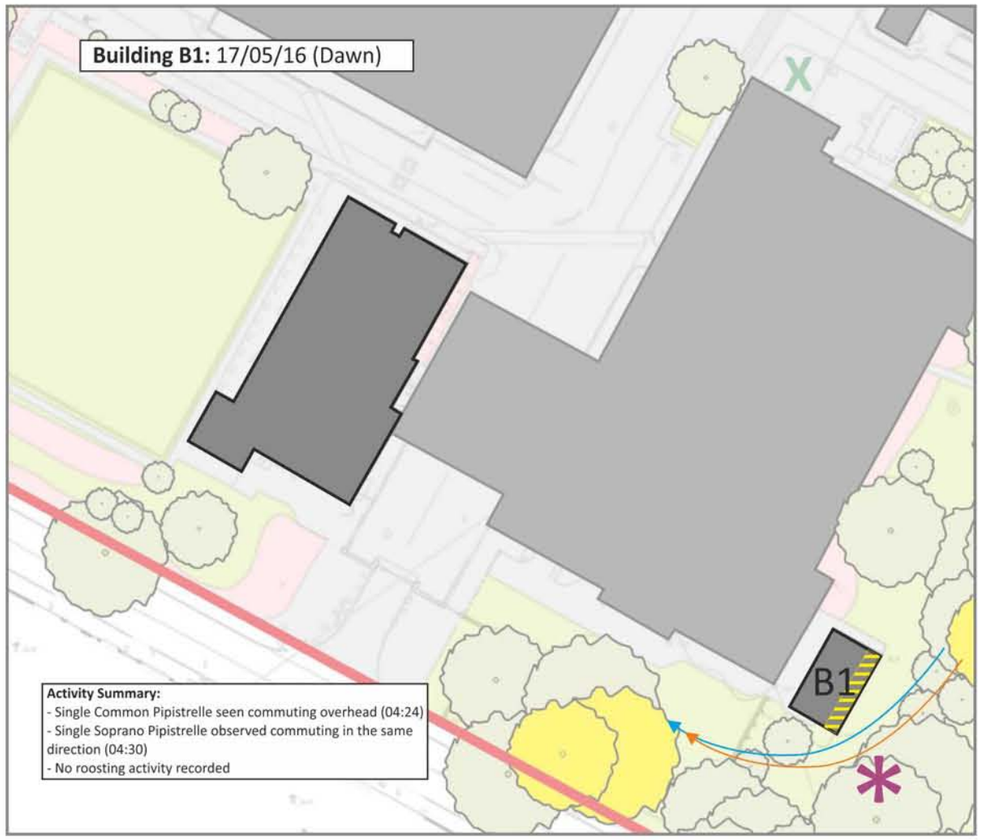
Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

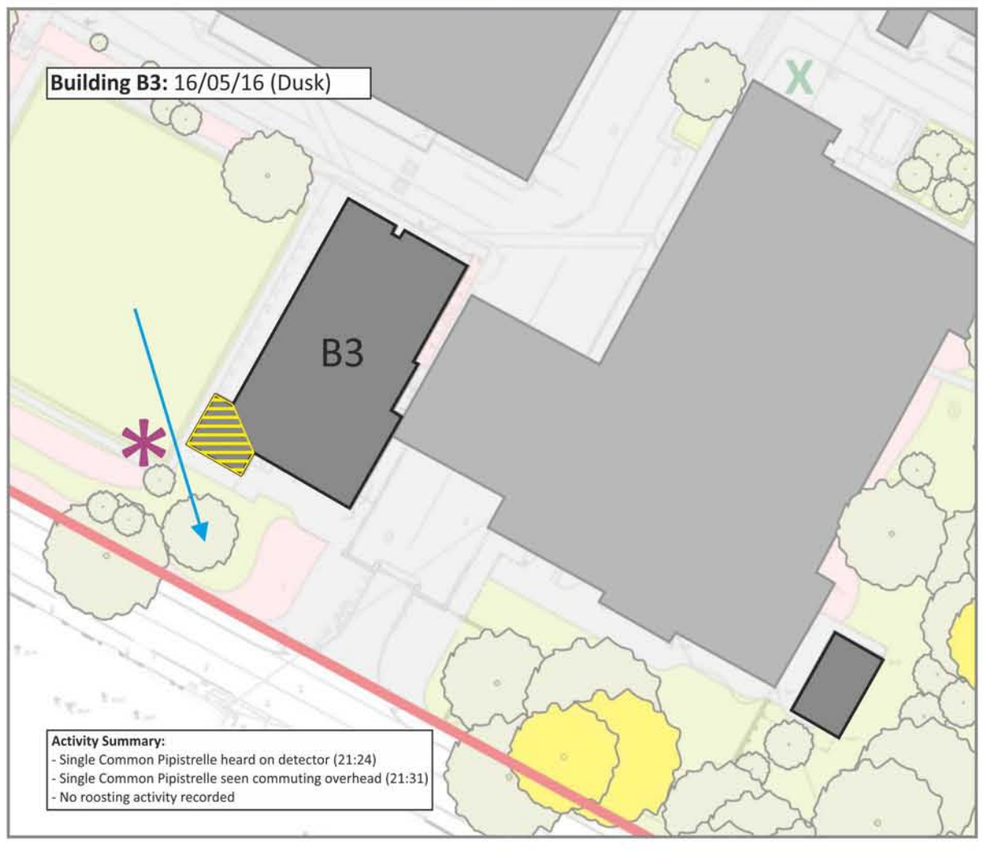
Former Nestle Factory, Nestle's Avenue, Hayes	PROJECT
Habitats, Ecological Features & Photographs	TITLE
4684/ECO3	DRAWING NO.
-	REV.
January 2017	DATE

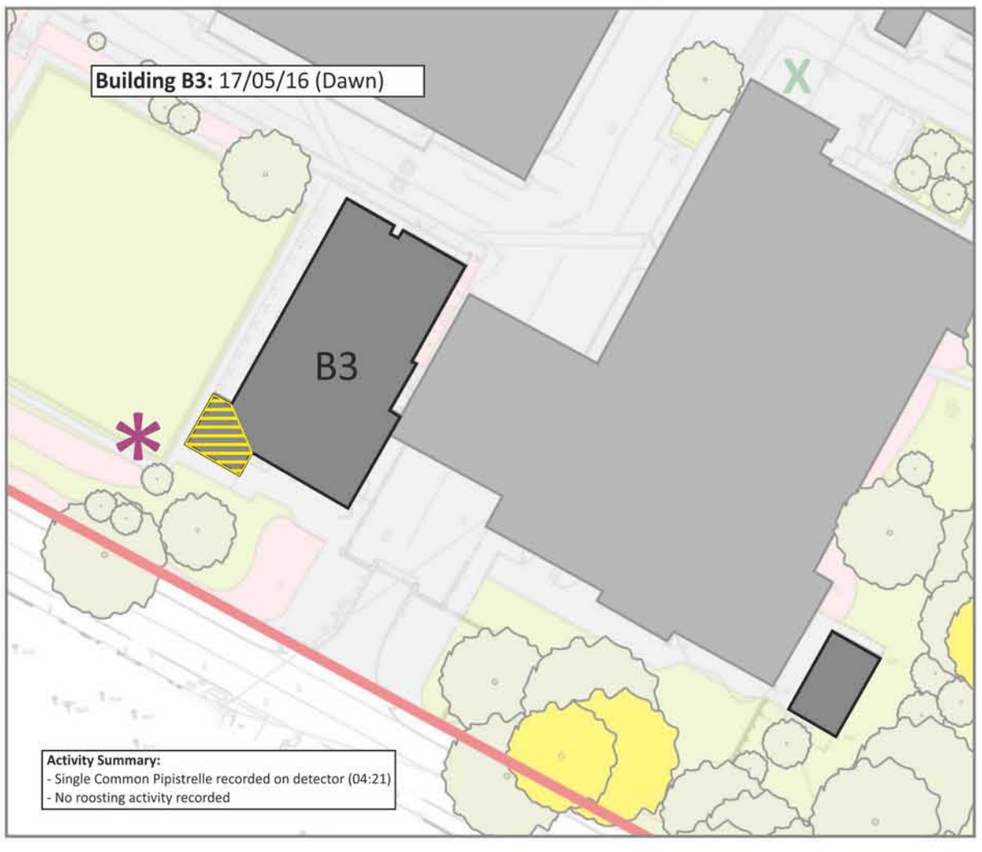
Plan 4684/ECO4:

Emergence/Re-entry Survey Results









KEY:

- Site Boundary
- Building
- Location of Feature Offering Low Bat Roosting Potential
- Common Pipistrelle Foraging/Commuting Pass*
- Soprano Pipistrelle Foraging/Commuting Pass*
- Surveyor Position

** Bat passes indicate bats seen during survey. All activity, including single commuting passes, that were 'heard not seen' during survey work are summarised in the 'Activity Summary' for each survey.*

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Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Former Nestle Factory, Nestle's Avenue, Hayes	PROJECT
Emergence/Re-entry Survey Results	TITLE
4684/ECO4	DRAWING NO.
-	REV.
January 2017	DATE

Appendix 4684/1:

Site Proposals Plans

BARRATT
LONDON
SEGRO

MAKOWER ARCHITECTS

FORMER NESTLE FACTORY, HAYES

MASTERPLAN - Context Roof Plan - Application

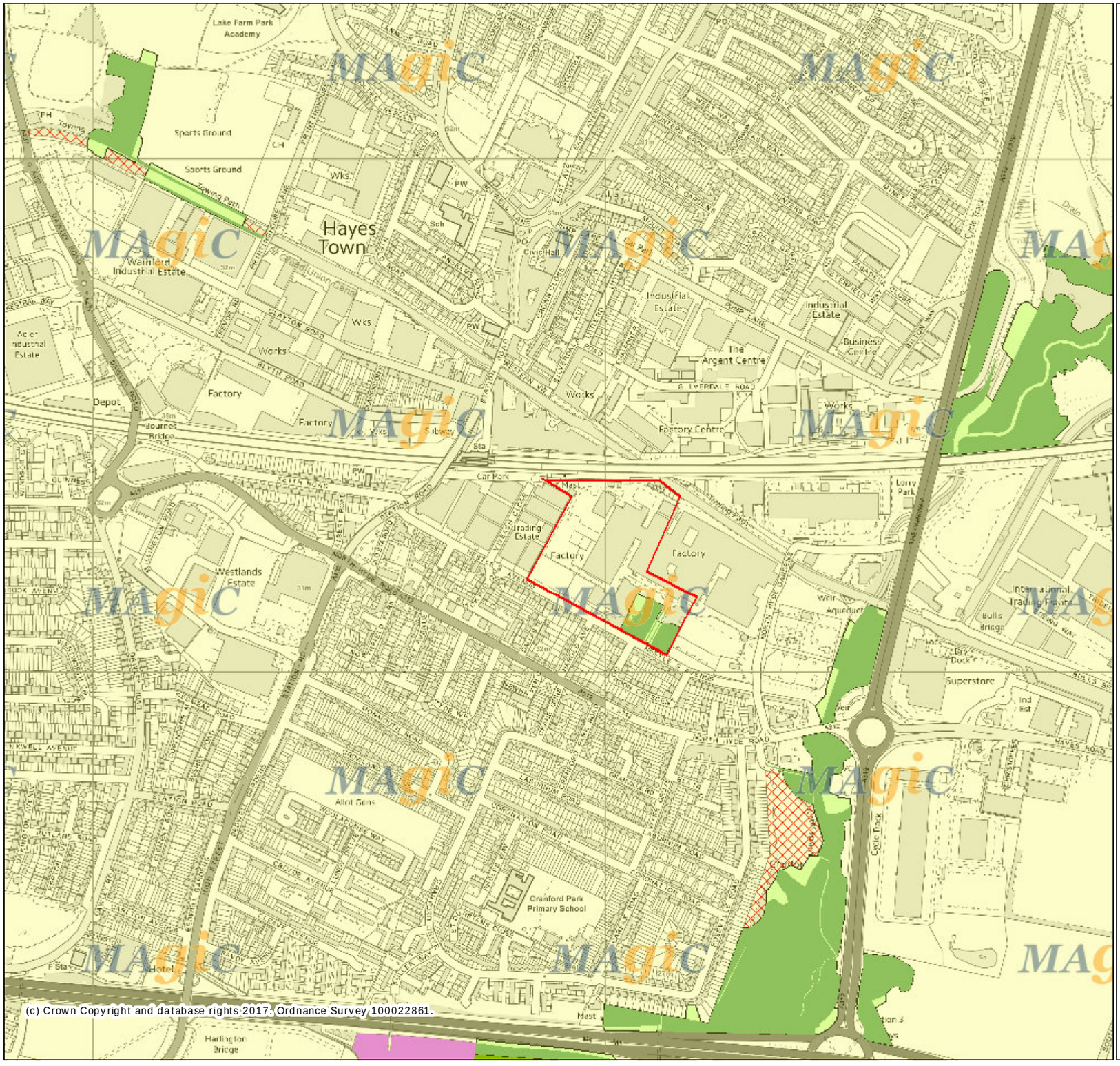
MP 012

ISSUE 07

Appendix 4684/2:

Information obtained from Multi-Agency Geographic Information for the Countryside (MAGIC) and Natural England online databases

4684 Priority Habitats



Legend

- Priority Habitat Inventory - Coastal Saltmarsh (England)
- Priority Habitat Inventory - Coastal Sand Dunes (England)
- Priority Habitat Inventory - Coastal Vegetated Shingle (England)
- Priority Habitat Inventory - Maritime Cliffs and Slopes (England)
- Priority Habitat Inventory - Mudflats (England)
- Priority Habitat Inventory - Saline Lagoons (England)
- Saline Lagoons (Wales)
- Saltmarsh (Wales)
- Sand Dunes (Wales)
- Priority Habitat Inventory - Calaminarian Grassland (England)
- Priority Habitat Inventory - Coastal and Floodplain Grazing Marsh (England)
- Priority Habitat Inventory - Good quality semi-improved grassland (Non Priority) (England)
- Priority Habitat Inventory - Lowland Calcareous Grassland (England)
- Priority Habitat Inventory - Lowland Dry Acid Grassland (England)
- Priority Habitat Inventory - Lowland Meadows (England)
- Priority Habitat Inventory - Purple Moor Grass and Rush Pasture (England)
- Priority Habitat Inventory - Upland Calcareous Grassland (England)
- Priority Habitat Inventory - Upland Hay Meadows (England)
- Priority Habitat Inventory - Lowland Heathland (England)
- Priority Habitat Inventory - Mountain Heaths and Willow Scrub (England)
- Priority Habitat Inventory - Upland Heathland (England)
- Priority Habitat Inventory - Limestone Pavements (England)

Projection = OSGB36
xmin = 507800
ymin = 178300
xmax = 512000
ymax = 180300

4684 Ecological Designations

Legend

- Local Nature Reserves (England) - points
- National Nature Reserves (England) - points
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36
xmin = 476000
ymin = 162100
xmax = 543000
ymax = 196100

Map produced by MAGIC on 19 January, 2017.

Appendix 4684/3:

Correspondence with the London Borough of Hillingdon

Matthew Davey

From: Ian Thynne <ithynne@hillingdon.gov.uk>
Sent: 27 April 2016 11:53
To: Laura Wilkinson
Subject: Re: Former Nestle Factory Site - Ecological scoping

Follow Up Flag: Follow up
Flag Status: Flagged

Laura,

I have yet to see the Phase 1 survey, so its fair to set out that the following comments are not a formal opinion and may change subject to the disclosure of further information.

Based on our conversation, and my understanding of the site, I don't believe there is a need for further detailed surveys. The planning tests for requiring further surveys (which can be costly and cause timetabling problems) is whether there is a reasonable likelihood of their presence.

To that end, the site does not contain the normal features attractive to protected species. The site is made up predominantly of hard standing and buildings, with scattered and isolated landscaping. The lack of apparent quality habitat supports the findings of your phase 1 survey you described over the phone. At best, it is suggested that there are areas with 'low potential' to support protected species, bats and reptiles in particular. 'Low potential' does not translate to 'reasonably likely to be present' and therefore further detailed surveys to support planning submissions are not required.

The few mature trees on site should be retained, and the boundary with the Grand Union Canal should be considered an opportunity for enhancement. In addition, I would expect to see a robust site wide enhancement plan with a subsequent application which includes details of a large extensive green roof. The concept of an intensive green roof for wildlife value should also be explored. New habitat features (e.g. bird boxes) will be expected to be included within the built form.

I trust this is of assistance.

Kind regards

Ian

Ian Thynne
Principal Sustainability Officer

direct: 01895 558 326

general: 01895 556 000

Planning Specialists
London Borough of Hillingdon
Civic Centre, High Street,
Uxbridge
Middlesex UB8 1UW

On 26 April 2016 at 15:24, Laura Wilkinson <Laura.Wilkinson@aspect-ecology.com> wrote:

Dear Ian,

Many thanks for taking the time to talk to me earlier with regard to the Former Nestle Factory site.

As set out on the phone, Aspect Ecology carried out a Phase 1 habitat and general faunal survey of the site earlier this month. As anticipated, the majority of the site is considered to be of limited ecological value, being dominated by factory and associated buildings and hardstanding. Former amenity grassland areas within the southern part of the site appear not to have been subject to any recent management, although the vegetation was largely dominated by common and widespread species, and therefore this habitat is not considered to be of any elevated ecological value. It is understood that a small number of London Notable Species were recorded previously at the site. However, the presence of these species are considered unlikely to form a constraint to development.

In terms of faunal species, a number of trees within the south of the site have been recorded as providing moderate suitability for roosting bats, whilst two buildings were also recorded to provide low suitability for roosting bats. The Grand Union Canal borders the site to the north, although the section of canal adjacent to the site is associated with little / no vegetation, such that foraging opportunities for bats are likely to be minimal, whilst given the nature of the site, foraging and commuting opportunities are also similarly likely to be minimal. The site also offers some minor potential for common reptiles (largely associated with the former amenity grassland areas), whilst the habitats present are likely to be of value to nesting birds and common invertebrates.

As discussed, given the nature of the site and its surroundings, and in line with the requirements of the NPPF, you do not consider it necessary for a planning application to be accompanied by any Phase 2 survey work, particularly in respect of reptiles, foraging / commuting bats and detailed botanical work (although given the bat roosting potential afforded by a small number of buildings and trees, recommendations for further survey work will be made should these features be lost, to be undertaken at the appropriate time as required for licensing purposes).

Finally, I understand that you are keen to see the ecological value of the site maximised following development, and have expressed a keen interest in seeing the inclusion of green roofs within the scheme. As such, I will certainly pass this request on to the applicant and design team.

I trust the above faithfully summarises our earlier conversation, and I would be keen to receive written confirmation as such from yourself. If you have any concerns or queries with regard to the above, or wish to discuss anything further, please do not hesitate to get in touch with me.

Thanks again for your time.

Kind regards,

Laura

Laura Wilkinson

Senior Ecologist

t: 01295 276066 | f: 01295 265072 | e: laura.wilkinson@aspect-ecology.com

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Appendix 4684/4:

Building Descriptions and Assessment of Bat Roosting Potential

Appendix 4684/4: Building descriptions and assessment of bat roosting potential

Building Number	Photo	Description	Bat Roosting Potential
B1		A small square building supporting a flat, sloping roof of concrete construction with pebble dashed walls and corrugated asbestos cladding.	Generally unsuitable for roosting bats. No internal loft void is present whilst no evidence of roosting bats was recorded within the internal inspection. A crack in the asbestos cladding on the eastern elevation allows access to a small cavity between the wall and cladding, which may provide some minor roosting opportunities. **Low bat roosting potential.**
B2		A two storey building supporting a flat roof, which was understood to previously contain offices. The building is no longer in use, but appears to be in good condition.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**
B3		A single storey, flat roofed building of brick construction with plastic cladding and wooded bargeboard.	The wooden barge boarding was noted to have started to rot and break in places, notably at the south west corner, forming an access point to a cavity measuring approximately 60cm in height. **Low bat roosting potential.**
B4		A large industrial building supporting three pitched roofs of brick and steel frame construction with metal cladding.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**
B5		A large industrial building of breezeblock and steel frame construction with a pitched aluminium panel roof. Associated with aluminium chimney and cooling vents.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**

Appendix 4684/4: Building descriptions and assessment of bat roosting potential

Building Number	Photo	Description	Bat Roosting Potential
B6		A small single storey building of steel frame construction with corrugated aluminium sheeting, windows and no loft void. In current use for storage.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**
B7		A small electrical substation of brick construction supporting a flat roof. Wooden barge boarding is present which was recorded to be in good condition and tightly sealed.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**
B8		A small 'L-shaped' single storey building of breezeblock construction, with an associated corrugated metal lean-to shelter. The building supports a flat roof with no void.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**
B9		A series of water tanks and steel frame containers.	Old industrial structures and open fronted shelters, with no external roosting features. **Negligible bat roosting potential.**
B10		A large industrial building, with a number of industrial structures associated with it including pipework / vents. The building is of a brick and metal construction with a shallow pitched, metal roof.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**
B11		A small brick structure with a flat roof and associated with a steel clad canopy at the rear.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**

Appendix 4684/4: Building descriptions and assessment of bat roosting potential

Building Number	Photo	Description	Bat Roosting Potential
B12		Main office block complex, 3-4 storeys in height. Steel frame construction supporting a flat roof with a number of windows.	No internal roof void present and lacks external roosting features, whilst the building was also recorded to be in good condition. **Negligible bat roosting potential.**

Appendix 4684/5:

Legislation

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).

2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself[1]. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.

3. In summary, the key pieces of legislation relating to nature conservation in the UK are:

    - Wildlife and Countryside Act 1981 (as amended)
    - Protection of Badgers Act 1992
    - Hedgerows Regulations 1997
    - Countryside and Rights of Way (CRoW) Act for England and Wales 2000
    - Natural Environment and Rural Communities Act 2006
    - Conservation of Habitats and Species Regulations 2010 (as amended)

4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.

5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.

6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).

7. Under Section 1(1) of the Act, all wild birds are protected such that is an offence to intentionally:

    - Kill, injure or take any wild bird;
    - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
    - Take or destroy an egg of any wild bird.

    * The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.

8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:

    - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
    - Disturb dependent young of such a bird

[1] http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/

9. Under Section 9(1) of the Act, it is an offence to:

- Intentionally kill, injure or take any wild animal included in Schedule 5.

10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:

- Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
- Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.

11. Under Section 13(1) it is an offence:

- To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
- Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.

12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.

13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

\# A sett is defined as "*any structure or place which displays signs indicating current use by a Badger*". Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way

14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.

15. **Hedgerows Regulations 1997**. 'Important' hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify 'important' hedgerows for wildlife, landscape or historical reasons.

16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).

18. **Conservation of Habitats and Species Regulations 2010 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.

19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)[2] classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.

20. The Regulations also provide protection to European Protected Species that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 41 it is an offence, *inter alia*, to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species;
- Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to reproduce or to hibernate, or migrate, or which is likely to affect significantly their local distribution or abundance;
- Deliberately take or destroy the eggs of such an animal;
- Damage or destroy a breeding site or resting place of such an animal

21. The Regulations do provide a licensing system that permit otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

[2] Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Appendix 4684/6:

Green Roof Specifications

Key Principles for Green Roof Creation

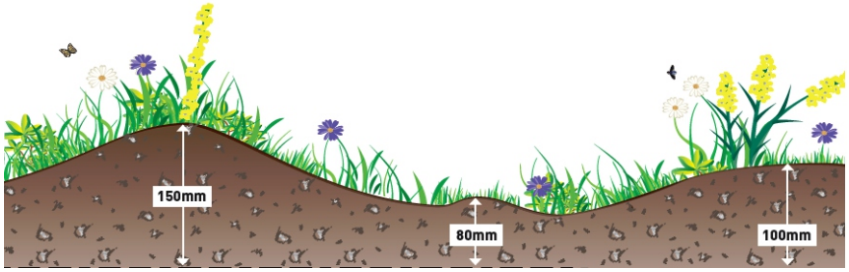
Adapted from the Buglife publication 'Creating Green Roofs for Invertebrates: A Best Practice Guide'

To maximise benefits for invertebrates and other wildlife species, an extensive green roof system should be provided, comprised of shallow, low nutrient substrates. The resulting environmental conditions are well suited to the growth of low growing hardy species, whilst varying substrate depth can support a greater diversity of plants and associated biodiversity.

Green roofs should be designed to provide a mosaic of habitats including open fine-leaved grassland, wildflower-rich grassland, heathland and open bare areas, forming a variety of habitat resources for invertebrate species in close proximity.

Bare, loose substrate provides opportunities for burrowing bee and wasp species and warms up quickly, providing an important resource for warmth-loving invertebrates to bask. Open areas also provide good foraging areas for visual predators such as spiders and ground beetles.

Variation in substrate depth contributes to biodiversity, with thin substrate being less vegetated, providing bare, open areas, whilst deeper areas of substrate are likely to hold more moisture and be more substantially vegetated. Varying substrate depth will also create localised variations in topography and microclimate, encouraging the development of structurally diverse vegetation.



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Key Principles for Green Roof Creation

Adapted from the Buglife publication 'Creating Green Roofs for Invertebrates: A Best Practice Guide'

Green roofs can be left to establish naturally, or can planted with wildflowers, either by seeding and/or plug planting. Planting should comprise locally appropriate native seeds/plants that are matched to the subtrate type, pH and desired habitat. The inclusion of fast germinating annual species will provide an important resource for insects during early establishment, whilst spring and autumn flowering species should be chosen to provide an extended pollen and nectar source throughout the year.

Additional habitat features such as log piles/deadwood piles, waterbodies, bug hotels and habitat walls should also be considered to provide additional habitat opportunities for invertebrate species.

Biodiverse roofs require little management due to the low nutrient, shallow substrates and exposure to the elements, limiting ecological succession. However, maintenance visits should be undertaken twice a year to inspect drainage outlets, remove any unwanted plants (e.g. Buddleia) and carry out small-scale habitat management (e.g. cutting of wildflower grassland areas, recreation of scrapes and bare ground areas). Cutting or removal of vegetation should be carried out in small areas on rotation to ensure a continuity of different habitat stages across the roof.

Appendix 4684/7:

Faunal Enhancement Specifications

Bat Boxes

Ibstock Integrated Bat Box

Designed with the Pipistrelle Bat in mind. Available in all brick types and various sizes. A discrete home for bats with several roosting zones created inside the box. Ideal for new build and conservation work. Maintenance free as the entrance is at the bottom.

Dimensions 215 x 215 or 215 x 290mm.

Bat Access Bricks produced by Ibstock
http://www.ibstock.com

Weinerberger Integrated Bat Box

The Terca/EcoSurv Bat Box has been specifically designed to be incorporated into the fabric of the building and to encourage the use by species such as Pipestrelles, Natterer's, Whiskered and Brandt's bats which are most commonly found roosting in buildings.

They are larger in size than other similar boxes and can accommodate more bats. The internal structure is not split into chambers and with the unique arrow head internal fixings allows bats to congregate in different areas. The box is available in either Staffordshire Smooth Red or Smooth Blue but can also be manufactured to suit any other colour from the Wienerberger range.

Dimensions:
102mm (d) x 215mm (w) x 440mm (h).
Bat Access Bricks produced by Weinerberger
http://www.wienerberger.co.uk

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Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box.

The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.

Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminum nails.

1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Width: 27cm
Height: 43cm
Weight: 7.3kg

2F Bat Box

A standard bat box, attractive to the smaller British bat species. Simple design with a narrow entrance slit on the front.

Material: Woodcrete
Diameter: 16cm
Height: 33cm
Weight: 4kg.

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box. They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.

1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree-friendly' aluminium nail.

Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts.

1N Deep Nest Box

A deeper than standard nest box which is ideal for robin, wren, pied wagtail and redstart and occasionally sparrows. Its depth offers protection from cats, magpies, jays and martens.

2 entrance holes, 30 x 50mm. Nesting area 15 x 21cm.

1SP Sparrow Terrace

House sparrows are gregarious and prefer to nest close to each other, so this woodcrete box provides room for three families under one roof.

For siting on buildings of all kinds at a height of at least 2m (e.g. under eaves.)

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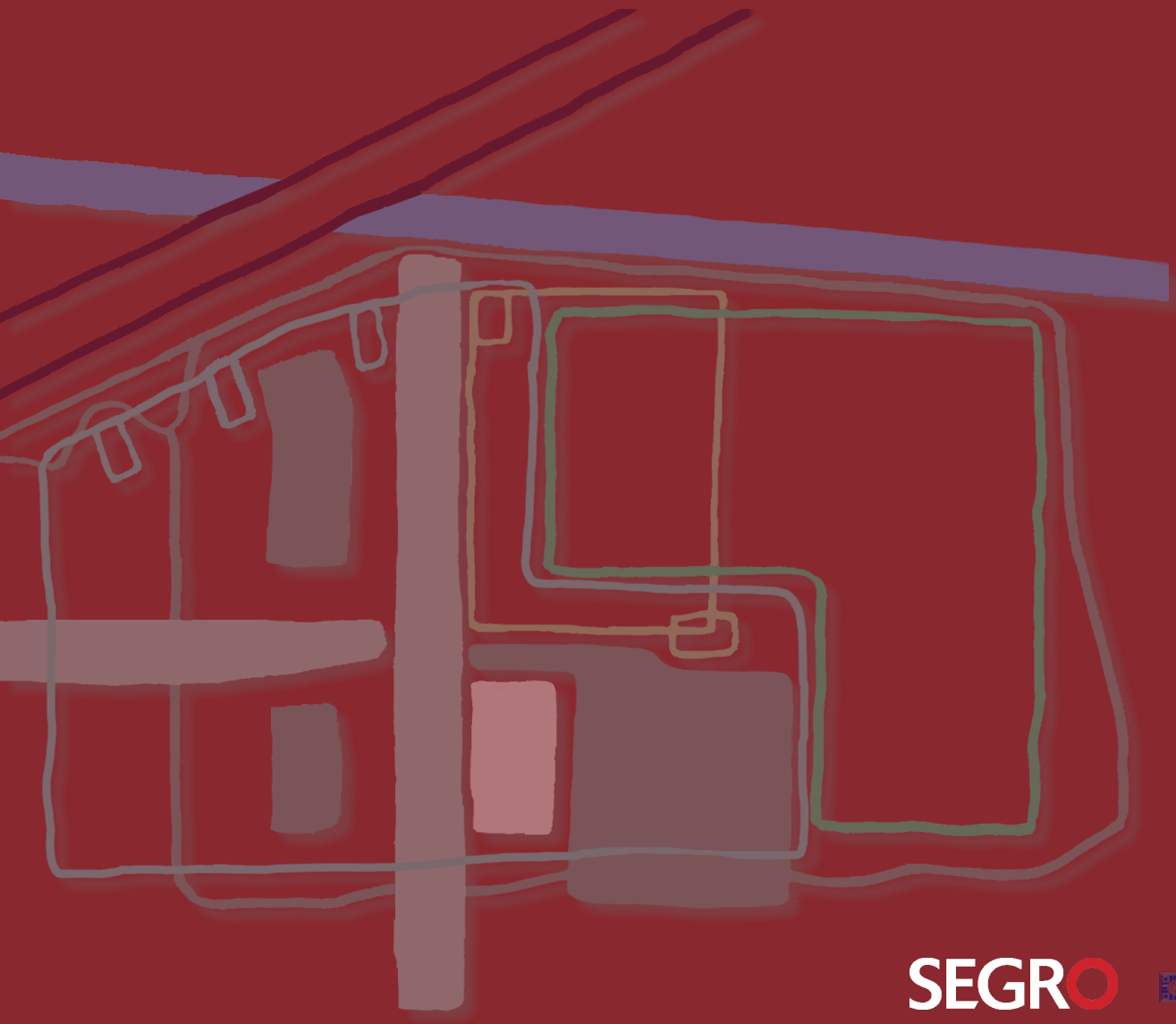
FORMER NESTLE FACTORY, HAYES

ECOLOGY REPORT
(Industrial Scheme)
MAY 2017



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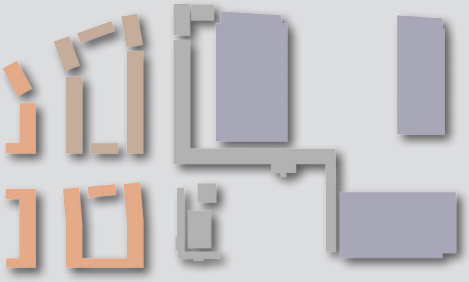

TALA

TALA
54 Kenilworth Avenue
London
SW19 7LW

Richard Kilshaw ecological services
Bsc. (Hons) Conservation management. Cert. Biological Survey. MIEEM
Wildlife survey and site assessment

Masters Lodge, Heath Road, Polstead, Colchester, Essex CO6 5AN.
Tel. 01206262008 / 07952032158. email rkilshaweco@aol.com

Ecological Appraisal (Industrial Scheme):

NESTLE SITE, HAYES UB3 4QP

15th April 2016

Prepared for: Terry Anderson Landscape architects

54 Kenilworth Avenue
London
SW19 7LW

Contents.

1. Introduction.

1.1 This preliminary ecological assessment has been completed on behalf of Terry Anderson Landscape Architects in relation to the commercial/ industrial development of the Nestle Site, Nestles Avenue, Hayes and should be read in conjunction with the separate ecological appraisal prepared for the residential part of the site. Site boundaries and location are as shown in the supplied drawing:

- *Hayes Master Plan. Drawing no. 909 4 GEN 0013*

Ordnance Survey grid reference location : TQ 1019 7917

1.2 The assessment includes an Extended Phase 1 habitat survey (JNCC 2007) including habitat descriptions and survey for presence or habitat suitability for protected species; and a desk study consisting of Multi-Agency Geographic Information for the Countryside (MAGIC) and data search compiled by Greenspace information for Greater London (GiGL 21/3/2016).

1.2.1 *GiGL conditions of data provision*: the full report is available for internal and client use. Local Planning Authorities are entitled to request a full copy of the data from GiGL, either via their Service Level Agreement or as a data search.

1.3 A site visit was undertaken on 22nd March 2016 during bright, dry and warm conditions, with temperatures of 12-14 degrees centigrade. Good access was available to all parts of the site including external roof areas, although some parts of the roof could only be inspected using binoculars. The banks of the adjoining section of the Grand Union Canal were also assessed during the site visit.

1.4 This report details assessment findings, interprets the search data, makes recommendations for further survey and outline mitigation measures where appropriate, and suggestions for biodiversity gain. The appendices include the GiGL data summary, a Phase 1 habitat map of the site, photographs of site conditions, and a plant species list for biodiversity gain in landscape design.

1.4.1 Botanical nomenclature within the report follows *New Flora of the British Isles by Clive Stace (2nd edition 1997).* Scientific names for plant species are included in the text in the first instance, with common names only used thereafter.

1.5 Site surveys and report were completed by Richard Kilshaw - a suitably qualified ecologist of 20 years experience, and a full member of the Chartered Institute of Ecology and Environmental Management.

1.6 The information set out within this report in no way constitutes a legal opinion on the relevant legislation. The opinion of a legal professional should be sought if further advice is required

1.7 The report has been prepared for the exclusive use of the commissioning client and unless otherwise agreed with Richard Kilshaw Ecological Services, no other party may use or rely upon the contents of the report. No liability is accepted by Richard Kilshaw Ecological Services for any use of the report other than the purposes for which it was originally prepared and provided. No warranty, expressed or implied, is made as to the advice in this report. The content of this report is partly based on information provided by third parties. Unless stated otherwise, information obtained from any third party has not been independently verified by Richard Kilshaw Ecological Services.

2. Site description

2.1 The site consists of the eastern section of the former Nestle factory site, Nestles Avenue, Hayes. The factory is now inactive but the site is maintained in a secure condition throughout, with intact metal-fenced boundaries, gated site access and security personnel.

2.2 It is dominated by hard-standing areas (vehicle parking, loading and access), and factory, office and warehouse buildings of early-mid 20th century origin, with some later contemporary additions and modifications. The site also includes a substantial red-brick house to the south-east corner latterly used as a reception building, also known as The Lodge.

2.3 Soft landscaping is largely confined to the south of the site, where an area of amenity grass with planted trees and shrubs adjoins mature trees to the road boundary, small planted areas and trees within the main car-park, and the overgrown garden associated with the reception building. Scattered light scrub and ruderal ('weed') species are minimal to site and building margins.

2.4 The site adjoins the Grand Union Canal along its northern boundary. It is securely fenced and the vertical re-reinforced canal banks offer a poor habitat environment and lack of site access.

2.5 The site is set within an area of dense residential and industrial land use, and associated infrastructure, which isolates it from the open, green-space areas of the River Crane corridor to the south-east, and Minet country-park to the north-east.

3. Data Search

A records search was compiled by GiGL covering a 1km radius search area from the site, centred on Ordnance Survey grid ref: TQ 1019 7917.

See Appendix 1: Ecological Data Search 728 - Summary Page.

3.1 Statutory sites and Local Nature Reserves: Data search shows there are no sites with European or National statutory designation within the search area.

3.2 Non-statutory sites: Data search shows that the search area contains no important geological or geomorphological sites, and 4 x Sites Important for Nature Conservation (SINC):

- London's Canals (SINC of Metropolitan importance Ref. M006): The whole of the Grand Union Canal system in London, including the Regents and Hertford Union Canals, is included in this single Metropolitan site. The wider system contains uncommon fauna and flora noted for clean, clear water conditions.
- Crane corridor (SINC of Metropolitan importance ref. M076): a 5km section of the River Crane containing diverse habitats along its margins which support a range of regionally and locally uncommon flora and fauna including water vole and kingfisher.
- Yeading Brook, Minet Country park and Hitherbroom Park (SINC: Borough grade 1 Ref. HiBl11): a collection of habitats including disturbed ground, amenity grass, rough grassland and areas of older meadow, marsh habitats and Yeading Brook, with scrub, small trees and a small stream with willow lined banks. These habitat areas are noted for their range of diverse flora and rich bird-life.
- Cranford Countryside Park and Open Space (SINC: Borough Grade 1 Ref HiBl16): a range of amenity and grassland habitats, with mature trees, woodland, scrub and a wet ditch. There is an important Brown Long-eared bat roost to one of the older buildings present.

3.3 Impact on Statutory and non-statutory sites: The Multi-Agency Geographic Information for the Countryside (MAGIC) website show the site location is outside of SSSI Impact Risk Zones for the type of development proposed and does not require LPA consultation with Natural England. In addition, the confined nature of the proposals are unlikely to to have a significant impact upon statutory or non-statutory sites, open space or greenbelt areas within the vicinity, if levels of activity particularly for noise and lighting, are comparable to recent site use or those of the adjoining industrial areas and infrastructure network.

3.4 Protected and notable species[1].

[1] *Species afforded legal protection under European and UK national Law; BAP Priority species, NERC section 41 (S.41) species; Local Species of Conservation Concern.*

Data search found 40 species records for protected and notable species, the vast majority of which are unsuited to the poor habitat conditions within the site. Some recorded bird species such as Swift, Starling and House Sparrow may occur within the site incidentally and could be actively nesting there at certain times of year. Recorded bats include species that regularly roost in buildings such as Brown Long-eared and Pipistrelle species, and Hedgehog may also be present to soft landscaping areas in the south of the site.

3.5 London Invasive Species Initiative (LISI): data search notes 48 species records for the area. In addition, Butterfly-bush *Buddleja davidii* and Ring-necked Parakeet *Psittacula krameri* were recorded during the site visit.

Recorded species with potential for presence to site habitats are listed in the table below *(Table 1.)*

Table 1: Summary of relevant species records

Species	*Status*	*Recorded*
Birds (species suited to site conditions)	UK protected - active nests (all species)	2005-2010
Bats (species suited to site conditions)	UK protected - (all species)	1998 - 2011
Hedgehog	NERC s14; Nat. and London BAP priority; Local Species of Conservation Concern	2009
Butterfly-bush	LISI category 3	Observed on site
Ring-necked Parakeet	LISI category 4	Observed over site

Extended Phase 1 habitat survey

4.1 Target notes

See: Appendix 2: Site habitat map.

Tn 1. The Lodge / Reception building - Mid 20th century red-brick property with large chimneys, clay-tile roof and dormer windows. The roof area has numerous gaps that appear suitable for bat access to voids within the roof and structure, including broken tiles, gaps to the bedding mortar to hip and ridge tiles, gaps around lead flashings and to facia / soffit joints. The eastern side of the building includes 2 x air-bricks which appear to be bat accessible and may allow access into the wall cavity.
No signs of bat activity were found, but the house appears to have high roosting potential. The interior and loft areas were not accessed during this site visit as it is understood that detailed bat surveys have already been commissioned to fully assess activity to the building and garden.
This building also has potential for nesting birds to external niches, and to shrubs and Ivy *Hedera helix growing* against its walls.

Tn 2. Garden - Overgrown garden to the above building, containing lawns, non-native shrubs and small trees including Cypress *Cupressus species*, Elder *Sambucus nigra,* and sapling Ash *Fraxinus excelsior*, with dense Bramble *Rubus fruticosus* and Ivy to the wire-fence boundaries.
Mature trees present include a mature conifer tree In close proximity to the house (although outside of the boundary fencing), and a Horse chestnut *Aesculus hippocastanum* with thick Ivy growth to the western boundary. In addition, smaller or semi-mature trees are present including Ash, Holly *Ilex aquifolium*, Hawthorn *Crataegus monogyna* Yew *Taxus baccata* and a dead tree (possible apple species). Bramble and a dense 'thicket' of mature Laurel *Prunus laurocerasus* within the west of the garden conceals a mound of soil, rubble and debris - possibly the remains of a former air raid shelter - containing a fox earth; fox trails cross the lawns to basking areas at the house, and exit the site beneath the boundary fencing to the south.
The former lawns are overgrown and species-poor, dominated by a mix of common grasses: Bent grass *Agrostis sp.*, Rye grass *Lolium perenne*, Red fescue *Festuca rubra*, Cock's-foot *Dactyls glomerata*, Yorkshire fog *Holcus lanatus* and False oat-grass *Arrhenatherum elatius.* Broad-leaved plants are sparse and restricted to widespread species such as Yarrow *Achillea millefolium*, Creeping buttercup *Ranunculus repens*, Common mouse-ear *Cerastium fontanum* and Ribwort plantain *Plantago lanceolata*.

In addition, ruderal plants are established throughout site with Canadian fleabane *Conyza canadensis*, Smooth sow-thistle *Sonchus oleraceus*, Annual mercury *Mercurialis annua*, Herb robert *Geranium robertianum,* Red dead-nettle *Lamium purpurea,* Groundsel and Ragwort *Senecio sp.* all prominent. Locally dominant patches of Nettle *Urtica dioica,* and Cleavers *Galium aparine* are also present.
No opportunities for bat roosting were seen to trees here and potential appears low although Ivy growth prevented full examination of the mature Horse chestnut tree. It is understood that the commissioned bat surveys will fully determine the potential of trees within the garden.
Bird activity was relatively high with Wren, Great tit, Robin and Blackbird all observed; good bird nesting opportunities are present to the trees, shrubs and scrub, dense Ivy and tall ground flora.

Tn 3. Soft Landscaping - Consisting of a margin of amenity grass and planted trees adjacent to Nestles Avenue separated from the site by a relatively recent mesh security fence. The avenue boundary is determined by a discontinuous line of mature Elm *Ulmus procera* trees, over dense Ivy, sections of non-native shrubs, and a metal-paling fence. The amenity grass is species and structurally poor, and subject to past close-management. It is over-planted with an evenly spaced mix of broad-leaved and coniferous trees, ranging from mature conifers to saplings, and frequent semi-mature Ash with simple structure and containing no significant niches for bats.
The trees, shrubs and dense Ivy to the fence-line present good bird-nesting habitat.
This area appears to be outside of the site boundary, and not directly affected by the proposals.

Tn 4. Soft landscaping - Amenity grass margin with few planted trees, and low shrubs within the site boundary fence, but contiguous with that described at Tn 3 above. This area is separated from the main car-park area by a low, closely managed 'hedge' of non-native shrubs and occasional Holly, with a row of young trees at the western end that includes Birch *Betula pendula* (x 6), Ash and Maple *Acer species*. A line of small but mature Pear trees (x 6) are present to the eastern end of the amenity grass; these have minor rot holes and crevices but no opportunities for roosting bats.
The grass is species and structurally poor - consisting of mix of common grasses with few broad-leaved species, and clearly subject to past close-management.
No inherent ecological interest but potential for nesting birds within the dense shrub 'hedge' and trees.

Tn 5 Hard-standing - Extensive asphalt car-park and site entrance area. The car park includes 6 semi-mature London plane *Platanus x hispanica* trees to the centre, and small blocks of low, closely-managed non-native shrubs to the boundaries.
No inherent ecological interest. No opportunities for bat roosting, but low potential for nesting birds.

Tn 6. Mature trees over amenity grass - Predominantly Beech *Fagus sylvatica*, with occasional Birch, Oak *Quercus robur*, Cherry *Prunus sp* and coniferous species also noted. This area is off site and was not closely inspected but some specimens appear to contain niches suited to bat roosting; the area also provides good bird nesting habitat and wildlife foraging in general.
Not thought to be directly affected by site proposals but potential wildlife interest could be negatively affected by lighting and noise disturbance within the site during re-development works and site activity on completion.

Tn 7. Access Control building - Building of contemporary design and construction methods, with metal frame and self-finished sheet cladding to the walls, and large areas of glazing. Not in current use but in a good state of repair and secured against wildlife access. The flat roof has pedestrian access, and is covered by a smooth, rubberoid surface unsuitable for nesting birds; this building has no opportunities for roosting bats.

Tn 8 Filling and packing building - A large single-storey brick building with concrete capping to the walls, an accessible flat roof and covered loading area constructed of a metal framework with corrugated sheet roofing. The building is surrounded by hard-standing vehicle access and parking, and devoid of vegetation.
Not in current use but in a good state of repair and secured against wildlife access.
This building has a smooth roof covering unattractive to nesting birds, although niches to ducting and fixings to the roof area offer low nesting potential. There are no opportunities for roosting bats.

Tn 9 Covered loading area - Open loading areas with part glazed coverings to a metal framework. No potential for bat roosting; niches and ledges to the framework offer low potential for nesting birds.

Tn 10 Main building and plant - Large factory building of early-mid 20th century construction, with a largely flat roof but also pitched roof-light sections, and corrugated metal-sheet cladding to contemporary additions.

The site boundary appears to run through this building, with the taller 4-5 storey section to the west located off-site, while the lower section and plant area to the east appear within the site. Not in current use but appears secured against wildlife access.
No potential for bat roosting was observed; niches to the external fixtures and plant offer low potential for nesting birds; the flat roof covering to the lower building sections are smooth and unattractive to nesting birds.

Tn 11 Covered loading area - Open loading and vehicle access area, with steel framework and corrugated mineral-sheet roofing. The interior of the roof is partially netted to exclude birds, but there is some evidence of roosting feral pigeons to the framework and niches to supporting buildings, which also have medium potential for nesting. No bat roosting opportunities observed.

Tn 12 Green bean warehouse - Brick construction with corrugated metal-sheet roof, and adjoining open fronted, covered loading area also clad with corrugated metal-sheeting. Not in current use. No significant bat roosting opportunities, and low potential for bird nesting to niches within the open loading area.

Tn 13 Grand Union Canal - Hard-standing areas to the rear of the site adjoins the canal, secured by timber palisade fencing and metal gates. The site boundary fencing sits directly on top of vertical, concrete canal sides, which extends beyond the site boundaries in each direction and to both banks. The opposite bank includes a tow-path with narrow margin of amenity grass, backed by fencing and scrub.
Water conditions had high turbidity and minimal flow at time of survey. The reinforced canal sides have no opportunities for water vole or otter, and the road bridge to the north-west corner of the site, and rail bridge beyond the site to the west, had no significant opportunities for bat roosting, or ledges for suited to Otter territorial spraint marking.
Small examples of willow *Salix sp*., Butterfly bush and light Bramble have established onto crevices in places, but wildlife potential to the canal banks is low.
Not directly affected by the proposed re-development of the site, but potential wildlife interest within the canal - such as foraging bats - could be negatively affected by lighting and noise disturbance during re-development works and by site activity on completion.

4.2 Protected and UK priority species.

4.2.1 Nesting birds

Trees, shrubs, tall ground flora and external niches to buildings directly affected by the proposals, or vegetation in close proximity to works, may contain active bird nests

particularly during the main nesting season (March - September inclusive).

- Mitigation measures are recommended to prevent damage or disturbance to active nests during this time.

4.2.2 Bats

The Lodge (**Tn 1**) has numerous niches suited to bat roosting and possible access to structural voids, and mature trees in its vicinity may also contain roosting opportunities. Detailed surveys are required to fully assess bat activity associated with the house. Further, the canal (**Tn 13**) and an adjacent area of mature trees (**Tn 6**) provide good potential for foraging and flight-line, and mitigation measures should be in place to prevent negative impacts to these habitats.

4.2.3 Miscellaneous mammal fauna

Targeted surveys for Badger found no indications of presence but Fox activity, including an earth was recorded within the site. Habitat conditions to the banks of the Grand Union Canal in the vicinity of the site are unsuitable Otter and Water vole habitat.

4.2.4 Herpetofauna

There are no water bodies suitable for amphibian breeding, and the site is predominantly unsuitable for reptiles, and amphibian terrestrial habitat. Previous close-management of the now overgrown garden (**Tn 2**), and to a lesser extent the amenity grass areas (**Tn 3** & **Tn 4**) is likely to have maintained these areas in unsuitable condition also. In addition, the site is isolated from the wider environment by roads and extensive residential and industrial areas, while the vertical, concrete banks of the canal create a further barrier to access into the site.

4.2.5 Invertebrates

The site consists of poor habitat conditions, widespread plant species and contains no significant dead-wood habitats. The proposals are highly unlikely to support or negatively impact upon rare or protected invertebrate populations.

4.2.6 Flora

Site flora is species-poor and confined to the soft landscaping and house garden in the south of the site. No rare or UK priority plant species were recorded.
Butterfly bush - a London invasive species - was present in low numbers, but nationally recognised non-native invasive plants including Japanese knotweed *Fallopia japonica*, Giant hogweed *Heracleum mantegazzianum* and Indian balsam *Impatiens glandulifera* were absent.

5. Conclusions and Recommendations.

5.1 Overview

The site consists of the eastern part of the Nestle factory site, and is dominated by early-mid 20th century factory and warehouse buildings, and hard-standing areas with no inherent wildlife value. Although not currently in use, the buildings - with the exception of the Lodge (**Tn1**) - are in a good state of repair and secured against wildlife access.

Vegetation within the site is confined to the southern margin, and consists of species-poor amenity grass, planted trees and non-native shrubs, and an overgrown garden associated with the house. A further, contiguous, area of amenity grass with planted trees extends beyond the sites' fenced boundary, to the mature trees, shrubs and Ivy to Nestles Avenue boundary.

The site is isolated from the wider environment by extensive residential and industrial land and associated infrastructure, and by the vertical, concrete banks of the Grand Union Canal to its' northern boundary.

5.2 Data search

The 'MAGIC' website show that the site is not located within an SSSI Impact Risk Zone, and there are no sites with European or National statutory designation within the search area. Non-statutory SINC sites (x4) present include: London's Canals (ref. M006); the Crane corridor (ref. M076); Yeading Brook, Minet Country park and Hitherbroom Park (ref. HiBl11); and Cranford Countryside Park and Open Space (ref HiBl16).

The confined nature of the proposals are unlikely to to have a significant impact upon statutory or non statutory sites, open space or greenbelt areas within the vicinity, if levels of activity particularly for noise and lighting are comparable to recent site use or those of the adjoining industrial areas and infrastructure network.

5.3 Nesting birds

Trees, shrubs, tall ground flora and external niches to buildings directly affected by the proposals, or vegetation in close proximity, may contain active bird nests, particularly but not exclusively during the main nesting season (March - September inclusive).

- **It is recommended** that works affecting potential nesting habitats are completed during the winter months (November - January). Alternatively, suitable habitats should be surveyed by an appropriately experienced ecologist 24-48hrs before such works commence to determine active nests as absent, or provide further advice if present.

5.4 Bats

The Lodge (**Tn 1**) has numerous niches suited to bat roosting and possible access to

structural voids; mature trees in its vicinity may also contain roosting opportunities. In addition the canal (**Tn 13**) and an adjacent area of mature trees (**Tn 6**) have good potential for foraging and commuting habitat.

- **It is recommended** that detailed surveys are completed to fully assess bat activity to the house and trees in close proximity, and appropriate mitigation determined where necessary. (It is understood that detailed surveys have already been commissioned.)
- **It is further recommended** that disturbance of adjoining foraging and commuting habitats that may arise from on-site lighting - during demolition and redevelopment, and within the finished site design - is prevented by use of directional lighting to avoid these habitats, and hoods to reduce light spillage.

5.6 Hedgehog

Hedgehog is recorded locally and may be using the overgrown garden and soft landscaping areas for foraging and hibernation.

- **It is recommended** that clearance of possible hibernation areas is undertaken with caution during mild conditions between spring - autumn, and that excavations left open overnight during development are inspected for hedgehog (and other wildlife) prior to commencing with associated works or infilling. In addition, a ramp (e.g. rough wooden plank) should be placed in the trench angled in such a way to enable wildlife to climb out. Animals discovered within excavations should be removed to a safe area of suitable habitat away from the immediate works.

5.7 Miscellaneous Mammals

Targeted surveys for Badger, Otter and Water vole found no indications of presence within the site or the adjacent canal, and habitat conditions to be poor; further survey for these species is not recommended. Fox activity, including an earth was recorded within the Lodge garden (**Tn2**).

- Although Foxes and their earths are not protected, it is recommended that clearance is completed during late autumn when cubs are unlikely to be present, and works carried out slowly and cautiously from one side, allowing an adequate escape route for animals that may be inside.

5.8 Herpetofauna

There are no water bodies suitable for amphibian breeding and site conditions are predominantly unsuitable for reptiles and amphibian terrestrial habitat. Past close-management of grass areas and the sites isolation from suitable habitat areas indicate presence is highly unlikely, and further surveys are not recommended.

5.9 Invertebrates

The site consists of poor habitat conditions, widespread plant species, and has no significant dead-wood habitats. Its redevelopment is unlikely therefore to have a negative impact upon local invertebrate populations, and further surveys are not recommended.

5.10 Flora

Site flora is species-poor and confined to the soft landscaping and house garden in the south of the site. No rare or UK priority plant species were recorded.

Butterfly bush - a London invasive species - was present in low numbers, but nationally recognised non-native invasive plants including Japanese knotweed *Fallopia japonica*, Giant hogweed *Heracleum mantegazzianum* and Indian balsam *Impatiens glandulifera* were absent.

No further surveys are recommended.

5.11 Biodiversity Gain: The National Planning Policy Framework (NPPF) (DCLG 2012) promotes net gains for biodiversity within development. Measures outlined below (See *6. Potential for biodiversity gain)* are suggestions as to how this may be achieved within this development.

6. Recommendations for biodiversity gain.

See also Appendix 2: Plants for biodiversity gain in landscape design.

6.1 Landscaping

6.1.1 Landscape design accompanying the proposals should select native or non-native plants and structural compositions that provide good foraging, nesting and refuge opportunities for birds, small mammals and invertebrates.

6.1.2 To maintain good habitat connectivity around the site and links to the wider environment, existing hedgerows to site boundaries should be retained wherever practicable, and the planting of new hedgerows be considered, for example to internal divisions within the development. Hedging plants should be native species of local provenance and appropriate for the landscape conditions and character. Where possible, they should be subject to low intensity management (trimming back every 3 years at most) to allow wildlife to benefit from flowering and fruiting species.

6.1.3 Lawns and amenity grass areas may be enhanced by the inclusion of wild-flower species tolerant of regular mowing such as White clover *Trifolium repens*, Self-heal *Prunella vulgaris* and Common birds-foot trefoil *Lotus corniculatus,* in addition to a mix of native grass species. This will provide valuable foraging habitat for invertebrates particularly bees and butterflies. *See Emorsgate (2015)*.

6.1.4 Quiet corners of vegetation and basal hedgerow vegetation may be left uncut to allow development of structural diversity including tussocks and a vegetative litter-layer to provide wildlife refuge and over-wintering habitats. Margins or dedicated areas of greensward may be subject to low intensity management (e.g. only 1 or 2 cuts per year) to create wild-flower areas and potentially valuable habitat for many wildlife groups.

6.1.5 Maintenance: all planting mediums, composts and dressings should be peat free, and weeds controlled manually or mechanically as opposed to use of chemical herbicides.

6.2 Wildlife boxes and shelters

6.2.1 Bird nesting boxes may be affixed to trees and shrubs to site boundaries and to the new buildings if practicable. In addition to typical hole-fronted boxes, open-fronted nest boxes suited to 'garden species' such as blackbird, dunnock, robin and wren should be considered, in addition to communal boxes and nest cups suited to starling, house sparrow, house marten and swift - declining species with a strong affinity to urban environments.

6.2.2 Bat roosting boxes may be fixed to boundary trees and site buildings where practicable. Boxes suited to hibernation and maternity roosts, and day roosting opportunities for solitary / small groups of males should also be considered.

6.2.3 Hedgehog shelters, suitable for refuge and hibernating, may be located to marginal areas of tall vegetation, hedgerow bases or similar areas of low disturbance.

6.2.5 Detailed advice on bird box designs and positioning, and hedgehog shelters is available from the RSPB at www.rspb.org.uk, and information regarding bat boxes obtained from the Bat Conservation Trust : www.bats.org.uk. Alternatively details for all major wildlife groups can be obtained from London Wildlife Trust: www.wildlondon.org.

Richard Kilshaw ecological services April 2016.

References:

- (GiGL 21/3/2016): Greenspace information for Greater London. Report ref: 728.
- JNCC (2007): Handbook for Phase 1 habitat survey. JNCC, Peterborough.
- MAGIC: Multi-Agency Geographic Information for the Countryside www.magic.gov.uk/MagicMap.aspx
- New Flora of the British Isles (2nd edition 1997) Clive Stace. Cambridge University Press
- DCLG (2012) Dept. for Communities and Local Government. National Planning and Policy Framework. www.communities.gov.uk/publications/planningandbuilding
- Emorsgate - www.wildseed.co.uk
- RSPB - www.rspb.org.uk
- Bat Conservation Trust - www.bats.org.uk.
- London Wildlife Trust - www.wildlondon.org

Appendix 1: Data Search - Summary Page.

THIS SUMMARY PAGE MAY BE PUBLISHED
THE FULL REPORT AND MAPS MAY NOT BE PUBLISHED IN THE PUBLIC DOMAIN

Ecological Data Search 728 - Summary Page

A 1000m ecological data search was carried out for site Nestles on behalf of Richard Kilshaw ecological services on 21 Mar 2016.

The following datasets were consulted for this report:

- Statutory sites ✓
- Non-statutory sites ✓
- Protected species ✓
- London invasive species ✓
- Habitats ✓
- Open space ✓

Results

Statutory sites	None present within search area
Non-statutory sites	4 SINCs
Areas of Deficiency	Present within search area
Geological sites	None present within search area
Species	
Protected and notable species	40 species records
London invasive species	48 species records
Habitats	
BAP habitat suitability	Present within search area
Open space	Present within search area

The report is compiled using data held by GiGL at the time of the request. Note that GiGL does not currently hold comprehensive species data for all areas. Even where data is held, a lack of records for a species in a defined geographical area does not necessarily mean that the species does not occur there.

Permission
This data search report is valid until 21/03/2017 for the site named above.

Prepared by Alec Walker
21 Mar 2016

Appendix 2: Phase 1 habitat map.

KEY

Site boundary		Dense scrub	
Hard-standing		Fence	
Trees		Target note (1-13)	4
Shrubs			

Appendix 3: Site Photographs

House (Tn 1) and front garden (Tn 2) - lawn and shrubs

Rear garden (Tn 2) lawn, Laurel thicket, scrub and Ivy covered Horse chestnut

Soft landscaping: shrubs, planted trees and amenity grass off site (Tn 3 outside of fence) and to car park margin (Tn 4)

Soft landscaping - trees and shrubs to car park (Tn 5)

Entrance area and Access and control building (Tn 7), Filling and packing building and loading area (Tn 8)

Main factory building (Tn 10) and roof landscape: Filling and packing building (foreground Tn 8), and Main factory building (background Tn 10)

Hard-standing and boundary fence to rear of Green bean building (Tn 12), and boundary to canal (Tn 13)

Appendix 4: Plants for biodiversity gain in landscape design

The following is a selection of native and non-native shrubs and climbing plants, and examples of ground flora suitable for inclusion within amenity grass areas, that have been selected for their wildlife value and potential to enhance biodiversity within landscape design associated with development.

Native grasses and wildflower mixes, and native tree species managed as hedging, coppice, pollard or standards, should also be incorporated whenever practicable.

Wildlife values in addition to the general foraging, nesting and cover they may provide are noted.

Nomenclature follows: *Stace C. (1997) New Flora of the British Isles. Cambridge Uni. Press.*

Species		*Wildlife value*
Barberry	*Berberis spp.*	Nectar, fruit.
Blackthorn	*Prunus spinosa*	Nectar, fruit, larval food plant
Broom	*Cytisus scoparius*	Nectar, larval food plant
Buckthorn	*Rhamnus cathartica*	Nectar, fruit, larval food plant
Butterfly bush	*Buddleja spp.*	Nectar
Cherry laurel	*Prunus laurocerasus*	Nectar, fruit, larval food plant
Clematis	*Clematis tangutica*	Nectar, seeds
Common birds-foot trefoil	*Lotus corniculatus*	Nectar, seed, larval food plant
Dog Rose	*Rose canina agg.*	Nectar, fruit, larval food plant
Dogwood	*Cornus sanguinea*	Nectar, fruit, larval food plant
Elder	*Sambucus nigra*	Nectar, fruit, larval food plant
Field Rose	*Rosa arvensis*	Nectar, fruit, larval food plant
Flowering currant	*Ribes sanguineum*	Nectar, larval food plant
Globe thistle	*Echinops ritro*	Pollen, nectar
Gorse	*Ulex spp.*	Nectar, larval food plant
Guelder rose	*Viburnum opulus*	Nectar, fruit, larval food plant
Hawthorn	*Crataegus monogyna*	Nectar, fruit, larval food plant
Hazel	*Corylus avellana*	Pollen, nuts, larval food plant
Hebe	*Hebe spp.*	Nectar
Holly	*Ilex aquifolium*	Nectar, fruit, larval food plant
Honeysuckle	*Lonicera periclymenum*	Nectar, fruit, larval food plant
Ivy	*Hedera helix*	Nectar, fruit, larval food plant
Lavender	*Lavandula spp.*	Nectar
Privet	*Ligustrum vulgare*	Nectar, fruit, larval food plant
Rosemary	*Rosmarinus officinalis*	Nectar
Self-heal	*Prunella vulgaris*	Nectar
Sweet box	*Sarcoccoca confusa*	Nectar
Spindle	*Euonymus europaeus*	Nectar, fruits
Traveller's joy	*Clematis vitalba*	Nectar, fruits, larval food plant
Tutsan	*Hypericum androsaemum*	Nectar, fruit, larval food plant
Wild cherry	*Prunus avium*	Nectar, fruit, larval food plant
White clover	*Trifolium repens*	Nectar, seed, larval food plant
Wayfaring tree	*Viburnum lantana*	Nectar, fruit, larval food plant
Yew	*Taxus baccata*	Fruit

BARRATT LONDON SEGRO aspect ecology TALA