

Manchester International Office Centre (North), Styal Road, M22 5TN

ECOLOGICAL SURVEY AND ASSESSMENT

August 2021

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Reporting	Personnel	Date
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SUMMARY

Introduction and Scope

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of Manchester International Office Centre (North), Styal Road, M22 5TN. The assessment was requested in connection with proposals to build a new commercial building within the Manchester International Office Centre complex.
- ii. This report presents the results of a desktop study and an extended Phase 1 Habitat Survey carried out in July 2021. The scope of survey undertaken is appropriate to identify potential ecological constraints, the remit of mitigation required and opportunities for biodiversity associated with the development proposals.
- iii. The site comprises an area of hard standing car park with ornamental planting, amenity grassland and boundary scrub.

Results of Survey and Assessment

- iv. The proposals will have no direct or indirect adverse effect on statutory or non-statutory designated sites for nature conservation.
- v. None of the habitats within the site are of significant interest in terms of their plant species composition. None of the habitats present are representative of semi-natural habitat or are Priority Habitat. The NVC communities present are typical of the geographical area and conditions present. The site contains only common and widespread plant species.
- vi. The vegetation at the site provides limited opportunities for nesting birds.
- vii. Japanese Rose, an invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), was detected. This does not preclude development but it is an offence to cause the spread of this species in the wild. Guidance on the control of this species is described at **Section 5.3**.

Recommendations

- viii. The recommendations in **Section 5.0** outline all the mandatory measures and additional actions to be applied to ensure compliance with wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.
- ix. The proposals will secure an opportunity to implement beneficial measures such as habitat creation that will safeguard habitats for wildlife such as birds and bats, with the aim of providing a net gain in biodiversity in accordance with the principles of the NPPF.

Conclusion

- x. It is concluded that the proposals are feasible and acceptable in accordance with ecological considerations and relevant planning policy. Development at the site will provide an opportunity to secure ecological enhancement for wildlife.

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Infinity (MIOC) LLP to carry out an ecological survey and assessment of land at the Manchester International Office Centre (North), Styal Road, M22 5TN (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SJ 84036 85364. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).
- 1.1.2 The assessment was requested in connection with a planning application to build a new commercial building on the hard standing within the Manchester International Office Centre complex.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in July 2021 comprised:
- A desktop study for known ecological information at the site and the local area;
 - An Extended Phase 1 Habitat Survey and assessment;
 - Assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);
 - Survey and assessment of all habitats for relevant statutorily protected species¹ and other wildlife including badger (*Meles meles*) and bird species;
 - A preliminary daylight survey of the trees at the site in relation to suitability for use by roosting bats;
 - The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and
 - The identification of any further surveys or precautionary actions that may be required prior to the commencement of any construction activities.

2.0 METHOD OF SURVEY

2.1 Desktop Study

- 2.1.1 The following sources of information and ecological records were consulted:
- MAGiC: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites; and
 - Greater Manchester Biodiversity Action Plan (BAP).
- 2.1.2 In accordance with *Guidelines for Accessing and Using Biodiversity Data* (CIEEM, 2016), the proposals at the site are small scale and will be of limited impact upon the site and local area. As such, it is considered that the purchase of ecological records (as provided by Greater Manchester Local Record Centre) is not required in this instance.

¹ In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development.

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Amy Sharples B.Sc. (Hons) M.Sc. ACIEEM on 9th July 2021. The weather was sunny, calm (Beaufort scale 0) and 18°C.
- 2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area at a scale of 1:500 (refer to **Figure 2**). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.
- 2.2.3 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.
- 2.2.4 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.
- 2.2.5 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).
- 2.2.6 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (as annotated on **Figure 1**) and extended to accessible land within a radius of 50 metres from the site boundary. Private land was excluded from the survey.
- 2.3.2 The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: surveys and mitigation for development projects* (Natural England, 2015).
- 2.3.3 The following signs of badger activity were searched for:
- Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
 - Large spoil heaps outside sett entrances;
 - Bedding outside sett entrances;
 - Badger footprints;
 - Badger paths;
 - Latrines;
 - Badger hairs on fences or bushes;
 - Scratching posts; and
 - Signs of digging for food.

- 2.3.4 Habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat Species

Daylight Survey: Trees

- 2.3.5 A preliminary assessment of the trees within the site was conducted to assess their suitability for use by roosting bats, and to inform whether further surveys or precautionary measures were required.
- 2.3.6 Trees were assessed from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of the following features:

Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.

- 2.3.7 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).
- 2.3.8 The requirement for further presence / absence surveys at each tree was then considered.

Habitat Assessment for Commuting / Foraging Bats

- 2.3.9 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented at **Table 2.1**, below.

Table 2.1: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting bats.	Negligible habitat features on site likely to be used by foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Bird Species

- 2.3.10 Bird species observed and heard during the survey were recorded.

- 2.3.11 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.

2.4 Survey and Reporting Limitations

- 2.4.1 All areas of the site were fully accessible at the time of the survey; no survey limitations were experienced.
- 2.4.2 All measurements within this report are approximate only, and have been estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGiC and Google Earth.

2.5 Evaluation Methods

- 2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977) and *Guidelines for the Selection of Biological SSSIs* (Bainbridge, et al., 2013). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.
- 2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).
- 2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2021) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2017*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.
- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and/or species listed by the Greater Manchester Biodiversity Action Plans has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site has no statutory designation for nature conservation and no statutory designated sites for nature conservation lie within 2 kilometres of the site.

The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for Cotteril Clough SSSI and Lindow Common SSSI, located 3.1 kilometres south-west of the site and 3.8 kilometres south of the site, respectively. The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2021):

Infrastructure: Airports, helipads and other aviation proposals.

Minerals, oils and gas: Oil and gas exploration / extraction.

Air pollution: *Livestock and poultry units with floorspace greater than 500m², slurry lagoons greater than 750m² and manure stores greater than 3500 tonnes.*

Combustion: *General combustion processes greater than 50 megawatt energy input including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works and other incineration / combustion.*

Non-statutory Designated Sites for Nature Conservation

- 3.1.2 The site and adjacent land have no non-statutory designation for nature conservation.

Priority Habitats Inventory and Soilscape Information

- 3.1.3 The Priority Habitats Inventory² was checked via MAGiC map. No Priority Habitats are noted within the site boundary or adjacent to the site on MAGiC.
- 3.1.4 In accordance with *Soilscape (England)* as presented on MAGiC Map (National Soil Resources Institute, 2005), the site supports 'slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils', and the characteristic semi-natural habitats associated with the soils comprise 'lowland seasonally wet pastures and woodland'.

3.2 Vegetation and Habitats

General Description

- 3.2.1 The approximately 0.2 hectare site is located within the existing Manchester International Office Centre site and comprises an area of hard standing car park with ornamental planting, amenity grassland and boundary scrub (**Photos 1 and 2**).
- 3.2.2 The southern and western site boundaries are defined by boundary vegetation. The northern and eastern site boundaries are not defined by physical features. Existing buildings, hard standing and amenity grassland associated with the Manchester International Office Centre lie beyond the northern, eastern and southern site boundaries. Styal Road (B5166) lies beyond the western site boundary. A sub-station lies in the area of scrub adjacent to the car park.
- 3.2.3 A Phase 1 Habitat Survey map is appended at **Figure 2**, and can be referred to for all habitat descriptions. Photographs are appended at **Table 8.2**.

Ornamental Planting and Boundary Scrub

- 3.2.4 The ornamental planting (**Photo 3**) and boundary scrub (**Photos 4 and 5**) are characterised by frequent ornamental species, Hawthorn (*Crateagus monogyna*) and Beech (*Fagus sylvatica*) with occasional Bramble (*Rubus fruticosus* agg.), Silver Birch (*Betula pendula*), Ash (*Fraxinus excelsior*), Goat Willow (*Salix caprea*), Grey Willow (*Salix cinerea*) and Leyland Cypress (*X Cuprocyparis leylandii*).
- 3.2.5 The boundary vegetation is not characteristic of an NVC community. A plant species list is appended at **Table 8.1**.

Amenity Grassland

- 3.2.6 The amenity grassland (**Photos 5 and 6**) is characterised by constant and abundant Perennial Rye-grass (*Lolium perenne*), occasional Yorkshire-fog (*Holcus lanatus*), Annual Meadow-grass (*Poa annua*) and Red

² A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

Fescue (*Festuca rubra*), locally abundant Dandelion (*Taraxacum officinale* agg.), Daisy (*Bellis perennis*), White Clover (*Trifolium repens*), Pineappleweed (*Matricaria discoidea*) and moss species.

- 3.2.7 The amenity grassland is characteristic of an *MG7 Perennial Rye-grass* ley grassland community of the NVC community (Rodwell, 1992). A plant species list is appended at **Table 8.1**.

Invasive Plant Species

- 3.2.8 No Japanese Knotweed is present at the site.
- 3.2.9 As illustrated on **Figure 2**, stands of Japanese Rose (*Rosa rugosa*) were detected associated with the ornamental planting. This species is listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended); it is an offence to spread or cause the spread in the wild. This is considered further at **Section 4.3**.

3.3 Animal Life

Badger

- 3.3.1 No badger or signs of badger were detected within the site. No evidence of badger such as setts / holes, prints, hairs, dung pits or snuffle holes were detected at the site or in the immediate surrounding area. Due to the absence of any field signs of badger, the presence of badger at the site is reasonably discounted. No further survey for badger is required.

Bat Species

Daylight Survey: Trees

- 3.3.2 No trees within the site support any features suitable for use by roosting bats such as knotholes, cavities, splits or tears. The presence of roosting bats is reasonably discounted and no further survey is required.

Habitat Assessment for Commuting and Foraging Bats

- 3.3.3 The site lies within the existing Manchester International Office Centre; the habitats within the site boundary are unlikely to provide an abundance or diversity of invertebrate prey, and are therefore considered to be of low suitability for use by foraging bats.

Bird Species

- 3.3.4 The ornamental planting and boundary scrub within the site provide habitat suitable for use by nesting passerine (i.e. perching) species.
- 3.3.5 Birds detected in the site on 9th July 2021 are listed in **Table 3.1**, below.

Table 3.1: Bird species Detected on 9th July 2021

Scientific Name	Common Name (number seen)	BOCC Status ¹	Priority Species?
<i>Columba palumbus</i>	Wood pigeon (2)	Green	No
<i>Parus caeruleus</i>	Blue tit (1)	Green	No
<i>Pica pica</i>	Magpie (2)	Green	No
<i>Turdus merula</i>	Blackbird (3)	Green	No

¹BOCC: Birds of Conservation Concern (Eaton, et al., 2015)

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 It is proposed to build a new commercial building on an area of car park associated with the Manchester International Office Centre complex, refer to *Proposed Drive Thru, MIOC, Planning – Proposed GA Site Plan, P5759_1200 Rev 4* (Pozzoni LLP, 2021), hereafter referred to as the 'proposed site plan'.
- 4.1.2 **Section 4.2** provides an assessment of any impacts of the proposed development on the designated sites for nature conservation present in the wider area. The ecological value of habitats within the site are evaluated at **Section 4.3**, and the presence of protected and notable species is considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

- 4.2.1 The proposals have no habitat or hydrological connectivity to the designated sites in the wider area. adverse impacts on designated sites for nature conservation within the wider area as reasonably discounted.

4.3 Vegetation and Habitats

- 4.3.1 None of the habitats within the site are of significant interest in terms of their plant species composition. None of the habitats present are representative of semi-natural habitat or are Priority Habitat. The NVC communities present are typical of the geographical area and conditions present.
- 4.3.2 The ornamental boundary scrub and trees at the site are considered to be of 'site' importance in terms of their geographical context³ as they provide habitat for nesting birds and foraging and commuting bats and provide structural diversity within an otherwise urban site.
- 4.3.3 The presence of Japanese Rose, an invasive species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), has been detected within the site. It is considered that the proposals present an opportunity for the management of this species as part of the proposed development. Further guidance is presented at **Section 5.3** of this report.

4.4 Protected Species and Other Wildlife

- 4.4.1 Habitats within and adjacent to the site are suitable for foraging and commuting bats. Recommendations relating to the retention of features suitable for use by foraging and commuting bats, avoidance of impacts on foraging bats and features to enhance habitats for roosting bats at the site are presented at **Section 5.4**.
- 4.4.2 The ornamental planting and boundary scrub provides favourable foraging and nesting habitat for the species of birds detected within the site. Consideration of birds (including protection of breeding birds and recommended enhancements for Priority Species) are presented at **Section 5.5** of this report.

³ In relation to its geographic context, using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system/Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

- 5.1.1 These recommendations aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.
- 5.1.2 In accordance with Chapter 15, paragraph 180(d) of the NPPF:
- 'opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.*
- 5.1.3 Where possible, opportunities to enhance the ecological interest and habitat connectivity and seek biodiversity gain through appropriate landscape planting and habitat creation have been identified.
- 5.1.4 All recommendations are appropriate to the geographical area, the habitats in the wider area, the wildlife present in the local area (and likely to use the site post-construction) and take into consideration the end use of the site as a commercial development.

5.2 Protection of Existing Vegetation

- 5.2.1 During the construction phase, temporary protective demarcation fencing will be used to protect trees or shrubs to be retained. The fencing must extend outside the canopy of the retained trees and must remain in position until all areas have been developed to ensure protection is provided throughout the construction phase.
- 5.2.2 The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

5.3 Invasive Plant Species

- 5.3.1 It is an offence under the *Wildlife and Countryside Act 1981* (as amended) to cause the spread of Japanese Rose in the wild. It is concluded that the preparation of an Invasive Species Management Plan is not necessary in this case and the spread of the invasive species can be controlled within the development site. If any invasive species will be disturbed by the proposed development it is recommended that it is grubbed out by the roots during site clearance and disposed of either by burying on site or removal to a suitable tip. Care must be taken with any soil removed from areas associated with an invasive plant species and the soil must be disposed of either by burying on site or removal to a suitable tip.

5.4 Bats

Lighting

- 5.4.1 Paragraph 185(c) in Chapter 15 (conserving and enhancing the natural environment) of the NPPF states that development should:
- 'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'*

Construction Phase

- 5.4.2 Any lighting to be used at the site during construction should be directional and screened where possible, this specification should be included within a Construction Environment Management Plan (CEMP), or similar.

Development Lighting Design

- 5.4.3 The lighting scheme to be implemented at the developed site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over any retained vegetation or any landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.
- 5.4.4 The lighting scheme will be designed with reference to current guidance, namely:
- Guidance Note 8: Bats and Artificial Lighting in the UK* (Institution of Lighting Professionals & Bat Conservation Trust, 2018); and
 - Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

5.5 Birds

Protection

- 5.5.1 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive (Natural England, 2015).
- 5.5.2 If breeding birds are detected the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.

Enhancing Habitats for Nesting Birds

- 5.5.3 The installation of two general bird boxes is recommended at the suitable retained trees. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. Suitable bird boxes are available from NHBS Ecology (www.nhbs.com) or Wild Care (www.wildcare.co.uk) and are presented at **Insert 1**, below:



Insert 1: Vivara Pro Seville 32mm WoodStone Nest Box and 1MR Schwegler Avianex

5.6 Landscape Planting

- 5.6.1 It is recommended that the landscape planting within the commercial development is composed from native species and species known to be of value for the attraction of wildlife.
- 5.6.2 It is recommended that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting. Suitable species are presented at **Table 5.1**, below.

Table 5.1: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
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<i>Acer campestre</i>	Field Maple	<i>Prunus spinosa</i>	Blackthorn
<i>Corylus avellana</i>	Hazel	<i>Rosa arvensis</i>	Field Rose
<i>Crataegus monogyna</i>	Hawthorn	<i>Rosa canina</i>	Dog-rose
<i>Ilex aquifolium</i>	Holly	<i>Sambucus nigra</i>	Elder
<i>Malus sylvestris</i>	Crab Apple	<i>Sorbus aucuparia</i>	Rowan
<i>Prunus avium</i>	Wild Cherry	<i>Ulmus glabra</i>	Wych Elm
<i>Prunus padus</i>	Bird Cherry	<i>Viburnum opulus</i>	Gelder Rose

- 5.6.3 The understorey and ground cover planting design should be prepared to optimise the attraction of invertebrates such as feeding bumblebees and butterflies. Where possible the use of native species should be maximised but where necessary non-native species known to be attractive to invertebrates should be used.
- 5.6.4 Planting schemes that include flowering species such as *Viburnum*, *Ceanothus*, *Hebe*, *Lavandula*, *Lonicera*, *Potentilla*, *Rosmarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds.
- 5.6.5 For further plants suitable for the attraction of pollinators please refer to the *Perfect for Pollinators Plant List* (Royal Horticultural Society, 2012). It is recommended that the selection of plant species at the site ensures that a variety of flowering species are available throughout the year.

6.0 CONCLUSION

- 6.1 This ecological survey and assessment has demonstrated that the construction of a new commercial building at the site is feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework.
- 6.2 It is possible to implement reasonable actions for the protection and long-term conservation of fauna such as nesting birds and commuting/foraging bats associated with the site.

7.0 REFERENCES

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8.0 APPENDIX: TABLES AND FIGURES

Table 8.1: Plant Species List for the Ornamental Planting, Scrub Vegetation and Amenity Grassland

Scientific Name	Common Name	DAFOR ¹	Cover
Ornamental Planting and Scrub Vegetation			
	Ornamental species	F	20%
<i>Alopecurus pratensis</i>	Meadow Foxtail	VLA	<1%
<i>Anthriscus sylvestris</i>	Cow Parsley	VLF	<1%
<i>Betula pendula</i>	Silver Birch	O	5%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	VLA	<1%
<i>Cirsium vulgare</i>	Spear Thistle	R	<1%
<i>Crataegus monogyna</i>	Hawthorn	F	20%
<i>Epilobium hirsutum</i>	Great Willowherb	VLF	<1%
<i>Epilobium montanum</i>	Broad-leaved Willowherb	LF	<1%
<i>Fagus sylvatica</i>	Beech	F	10%
<i>Fraxinus excelsior</i>	Ash	O	10%
<i>Galium aparine</i>	Cleavers	O	1%
<i>Geranium robertianum</i>	Herb-Robert	VLF	<1%
<i>Hedera helix</i>	Ivy	VLA	<1%
<i>Hyacinthoides</i> sp.	Non-native Bluebell	LA	<1%
<i>Ilex aquifolium</i>	Holly	VLF	<1%
<i>Ligustrum ovalifolium</i>	Garden Privet	VLA	<1%
<i>Lolium perenne</i>	Perennial Rye-grass	LA	5%
<i>Quercus robur</i>	Pedunculate Oak	LA	3%
<i>Ranunculus acris</i>	Meadow Buttercup	VLF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	O	5%
<i>Salix caprea</i>	Goat Willow	O	5%
<i>Salix cinerea</i>	Grey Willow	O	5%
<i>Senecio jacobaea</i>	Common Ragwort	VLA	<1%
<i>Sorbus aucuparia</i>	Rowan	LA	1%
<i>Taraxacum officinale</i> agg.	Dandelion	LA	5%
<i>X Cuprocyparis leylandii</i>	Leyland Cypress	O	5%
Amenity Grassland			
	Moss species	LA	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	VLA	<1%
<i>Cirsium arvense</i>	Creeping Thistle	LF	<1%
<i>Festuca rubra</i>	Red Fescue	O	5%
<i>Holcus lanatus</i>	Yorkshire-fog	O	20%
<i>Lolium perenne</i>	Perennial Rye-grass	A*	50%
<i>Matricaria discoidea</i>	Pineappleweed	LA	5%
<i>Medicago lupulina</i>	Black Medick	VLF	<1%
<i>Poa annua</i>	Annual Meadow-grass	O	10%
<i>Senecio jacobaea</i>	Common Ragwort	LF	<1%
<i>Stellaria media</i>	Common Chickweed	VLA	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	LA	5%
<i>Trifolium pratense</i>	Red Clover	VLA	<1%
<i>Trifolium repens</i>	White Clover	LA	5%
¹ Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species			

Table 8.2: Photographs



Photo 1: Area of car park within site boundary, facing south



Photo 2: Area of car park within site, facing north



Photo 3: Ornamental planting at southern boundary, facing south



Photo 4: Scrub at the western site boundary, facing north-west



Photo 5: Amenity grassland and scrub, facing south-west

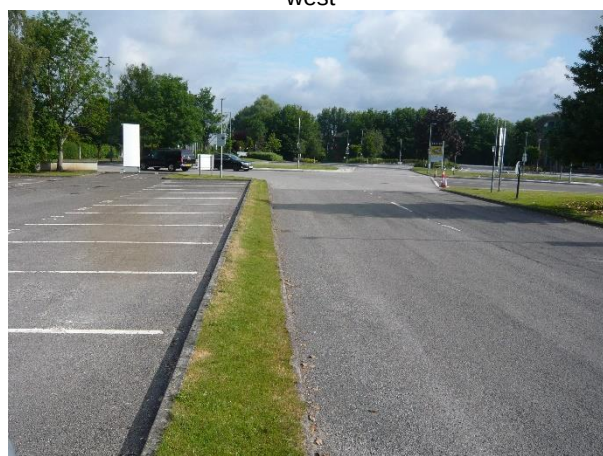


Photo 6: Amenity grassland, facing north

Figure 1: Plan to Illustrate the Site Boundary



Figure 2: Phase 1 Habitat and Vegetation Map

