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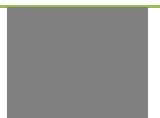
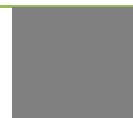
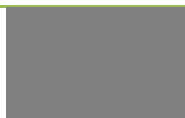
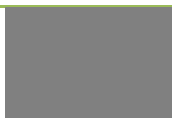
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Preliminary Ecological Appraisal

April 2022

**123 Levenshulme Road,
Gorton,
Manchester,
M18 7NF**

National Grid Ref: SJ88689545



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Issue no.	1.0
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Prepared by	Tyrer Ecological Consultants Ltd

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This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development of the site, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development

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Tyrer Ecological Consultants Ltd will however consider forwarding data that is collected as part of its reports to the relevant wildlife records centre.

Executive Summary

As part of a proposed planning application at 123 Levenshulme Road, Gorton, Tyrer Ecological Consultants Ltd carried out a Preliminary Ecological Appraisal (PEA) in March 2022.

The PEA was commissioned by Watson Homes; it is understood that proposals are for the development of the currently unutilised site into an apartment building consisting of 54 individual units with associated infrastructure and access.

Extensive findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following further surveys necessary and wider key recommendations.

Habitats: No habitats or species of conservation importance were identified within the application site boundary; nor were any invasive species listed as such under Schedule 9 of the WCA (1981). *Therefore, there are no further recommendations considering priority habitats or invasive species at this time.*

Bats: The singular building identified on site has been duly categorised as offering ‘Negligible’ bat roost suitability. *No further surveys are required in relation to bats.*

Breeding Birds: There are a plethora of viable nesting opportunities for smaller birds across the site. *It is recommended that vegetation clearance should take place during the main bird breeding season (1st March to 31st August inclusive), unless a competent Ecologist has undertaken a careful, detailed check of vegetation for active birds' nests immediately before the vegetation is cleared.*

Terrestrial Mammals: The site provides highly suitable habitat for Hedgehog. *Recommendations to mitigate risk to this species have been suggested in Section 8.14.*

Amphibians: GCN are not considered to be utilising the site, but the presence of other more robust amphibians cannot be ruled out. *Therefore, an appropriate Method Statement is recommended to be created by a suitably qualified Ecologist/Ecological Clerk of Works (ECoW), detailing a list of Reasonable Avoidance Measures (RAMs) to prevent risk to this species.*

Reptiles: The site is of a high suitability for reptiles, with the habitat providing all the preferential qualities required for this taxon. *Reptile surveys are therefore recommended in order to determine presence/absence of this group, in accordance with current best practice guidelines. See Section 8.19 for further information.*

Invertebrates: It is determined that the site is of local significance to invertebrate assemblages or specially protected invertebrates, subject to their presence in the landscape. *Major impacts are foreseen for this species group; mitigation and enhancement measures have therefore been suggested in Appendix III, and these should be incorporated into the subsequent development plan.*

Biodiversity Enhancement: A series of recommendations have been presented in Appendix III, which provide ideas to enhance the site in accordance with the principles of ‘Biodiversity Net Gain: Good practice principles for development’ (CIEEM et. al., 2019).

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1.0 Introduction & Scope

- 1.1 As part of a proposed planning application at 123 Levenshulme Road, Gorton, Tyrer Ecological Consultants Ltd carried out a Preliminary Ecological Appraisal (PEA) in March 2022.
- 1.2 The PEA was commissioned by Watson Homes; it is understood that proposals are for the development of the currently unutilised site into an apartment building consisting of 54 individual units with associated infrastructure and access. See Figure 1.1 for the proposed site plan.



Figure 1.1 – Proposed site plan (©TADW Architects)

- 1.3 As part of the Local Planning Authorities (LPA) planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted, particularly where protected/priority habitats or species are, or may be, present and could be affected by the proposals for which the application seeks consent.
- 1.4 The PEA was carried out in accordance with the 'Guidelines for Preliminary Ecological Appraisal, 2nd Edition' (CIEEM, 2017) and all site associated 'CIEEM Competencies for Species Survey (CSS)' (CIEEM, 2013), whilst this report has been presented in accordance with the British Standard 42020:2013.

Aims & Objectives

- 1.5 The appraisal aims to ascertain the baseline nature of the site and, where possible, obtain information on any priority wildlife habitats, or species, that may be present and if so determine if they will be affected by the proposals. The survey therefore includes the following objectives:

- Gather and present baseline ecological information on site/off site (as necessary) within a suitable report,
- Identify, measure and map habitats using UK Habitat Classification – Habitat Definitions Version 1.1 (Butcher *et al.*, 2020) habitats,
- Identify any likely ecological constraints associated with the proposals for the site (i.e. the presence of protected/priority habitats or species that exist within the confines of the application boundary, or zone of influence (ZOI),
- Identify measures likely to be required in line with the mitigation hierarchy (i.e. impact avoidance > minimisation > mitigation > compensation),
- Identify additional survey requirements following on from this preliminary appraisal,
- Identify a series of enhancement opportunities for biodiversity in line with national and local planning policy following '*Biodiversity Net Gain: Good practice principles for development*' (CIEEM *et. al.*, 2019),
- Set out any requirements for post-development monitoring, management, or other commitments, and how they can be secured, where required.

1.6 As a functioning component of this specific ecological appraisal:

- Habitats on site were identified, measured and mapped using the UK Habitat Classification – Habitat Definitions Version 1.1 (Butcher *et al.*, 2020);
- A single building was subject to a preliminary roost assessment (PRA) for Bats and scored against the bat roost suitability parameters defined in the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (Collins, 2016);
- A stretch of water was assessed for habitat suitability concerning Water Voles (*Arvicola amphibius*).

1.7 This report therefore provides important baseline information as derived from the diurnal appraisal process outlined above and recommends any necessary additional surveys, or work, where applicable, to provide a conclusive ecological impact assessment.

1.8 The Applicant should be aware then that if during the appraisal:

- The application site/area was found to be suitable for any European Protected Species (EPS), otherwise protected, or priority habitats/communities/species, or,
- Signs of use by particular protected species were found or suspected, or,
- Seasonal constraints significantly limit the gathering of ecological information to arrive at an accurate conclusion on which the planning application can proceed;

Then more detailed surveys may be recommended where necessary, to allow the ecologist to arrive at a conclusive impact assessment.

1.9 If any protected species were subsequently found either during appraisal or during detailed further surveys and / or may be affected by the development proposals, then a European Protected Species Mitigation Licence (EPSML) may be required to proceed with the development.

1.10 Where more detailed surveys are recommended by the Ecologist, following ecological appraisal, then Local Planning Authorities (LPA's) on the advice of their ecological advisors, may not grant permission until such time that all relevant material information is gathered in accordance with their obligations to the legislature.

1.11 Protected/priority species omitted from this report have been discounted due to negating factors including obvious absence/isolation of suitable habitats, and/or distributional aspects negating the necessity to survey for them, and/or where the proposed works were not considered to impact the species or encroach on areas where the species may be present.

2.0 Legislation & Policy

2.1 The legislature considered for the purposes of this report includes the following:

- Conservation of Habitats and Species Regulations (amendment) (2019) (EU Exit),
- Wildlife and Countryside Act (1981) (as amended),
- Countryside Rights of Way (CROW) Act (2000),
- Natural Environment and Rural Communities (NERC) Act (2006),
- Protection of Badgers Act (1992),
- The Hedgerow Regulations (1997),
- Town and Country Planning Act (1990),
- Wild Mammals Protection Act (1996).

2.2 These acts entail relevance to both protected and invasive species. The degree of protection offered to taxa provided within existing UK and EU legislature often varies depending on species/group, for example, some species may purely be protected during one of its life stages (e.g. common species of breeding bird whilst nesting/with eggs/young); some species may receive full protection within the EU (e.g. otter), whereas others may be protected solely on a national basis (e.g. grass snake).

2.3 Table 2.1 contains appropriate legislature to each species/group specifically respective to the site and provides the relevance of said legislation.

Table 2.1 – Relevant Legislation

Species Group/Species	Relevant Legislation	Level of Protection
Badger	Protection of Badgers Act (1992), Wildlife and Countryside Act (1981) (as amended)	<u>Illegal to:</u> Wilfully kill, injure or take a badger (or attempt to do so). Cruelly ill-eradicate a badger. Dig for a badger. Intentionally or recklessly damage or destroy a badger sett or obstruct access to it. Cause a dog to enter a badger sett. Disturb a badger when it is occupying a sett.
Bats	CROW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	All British bats and their roosts are afforded full protection from damage/destruction and bats may not be injured/killed/taken at any life stage. Once identified, roosts are protected whether the bat is in occupation or not.

Birds (Breeding)	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected. Birds listed on Schedule 1 Wildlife & Countryside Act (1981) (as amended) are afforded a greater level of protection.
Great Crested Newt (GCN)	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) Wildlife and Countryside Act (1981) (as amended)	Great Crested Newts (GCN's) are fully protected from disturbance, killing, injuring or possession at any life stage. Confirmed breeding ponds and resting places are afforded the same protection.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended)	Species listed within Schedule 9 as invasive, including Japanese Knotweed (<i>Reynoutria japonica</i>) and Himalayan Balsam (<i>Impatiens glandulifera</i>), for example, carry notoriety regarding development. The Act makes it an offence for any person to grow or cause to grow in the wild any plants listed as invasive.
Reptiles	Conservation of Habitats and Species Regulations (2019) (EU Exit) - SL/SS Wildlife and Countryside Act (1981) (as amended) - SL/SS CRoW Act (2000)	All native reptile species have some degree of protection in the UK, through section 8(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). Sand lizard (SL) and smooth snake (SS) are species of principal importance however with greater protection(s).
Water Vole	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	Water Voles are fully protected against intentional killing, capture or injury and intentional or reckless disturbance, obstruction, damage or destruction of their burrows.

Relevant Policy

- 2.4 Guidance for Local Authorities: Extract from Office of the Deputy Prime Minister - Circular 06/2005:

"It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision".

2.5 Paragraph 180 of the National Policy Planning Framework (as revised in July 2021) states:

180. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity 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;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and,

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while 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.

2.6 Policy EN15 of the Manchester Core Strategy 2012 – 2027, regarding Biodiversity and Geological Conservation, states:

“The Council will seek to maintain or enhance sites of biodiversity and geological value throughout the City. Particular consideration will be given to:

- sites with international or national designations for their biodiversity value. Manchester contains one Site of Special Scientific Interest (SSSI) (Cotteril Clough); there is a Special Area of Conservation (SAC) and an SSSI just over the border in Oldham (both on the Rochdale Canal within Oldham);*
- other sites of biodiversity value, including Sites of Biological Importance (SBIs) and Local Nature Reserves (LNRs); Manchester currently has 35 SBIs (including the Rochdale and Ashton Canals) and 7 LNRs; priority habitats found within Manchester, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);*
- protected and priority species, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP); sites that are recognised for their geological importance;*
- the Council’s objective to protect and conserve the City’s existing trees and woodlands and the aim for a net increase in trees across the City.”*

The policy also delves further into biodiversity protection and enhancement, and goes on to say:

“Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, either on-site or adjacent to the site, contributing to linkages between valuable or potentially valuable habitat areas where appropriate... Any adverse impacts on biodiversity will need to be justified against the wider benefits of the proposal, assessed against other LDF policies. Where adverse impacts are unavoidable, developers will be required to provide appropriate mitigation and/or compensation.”

2.7 Figure 2.1, below, is a process model that summarises how ecological issues should be dealt with in the context of the planning process.

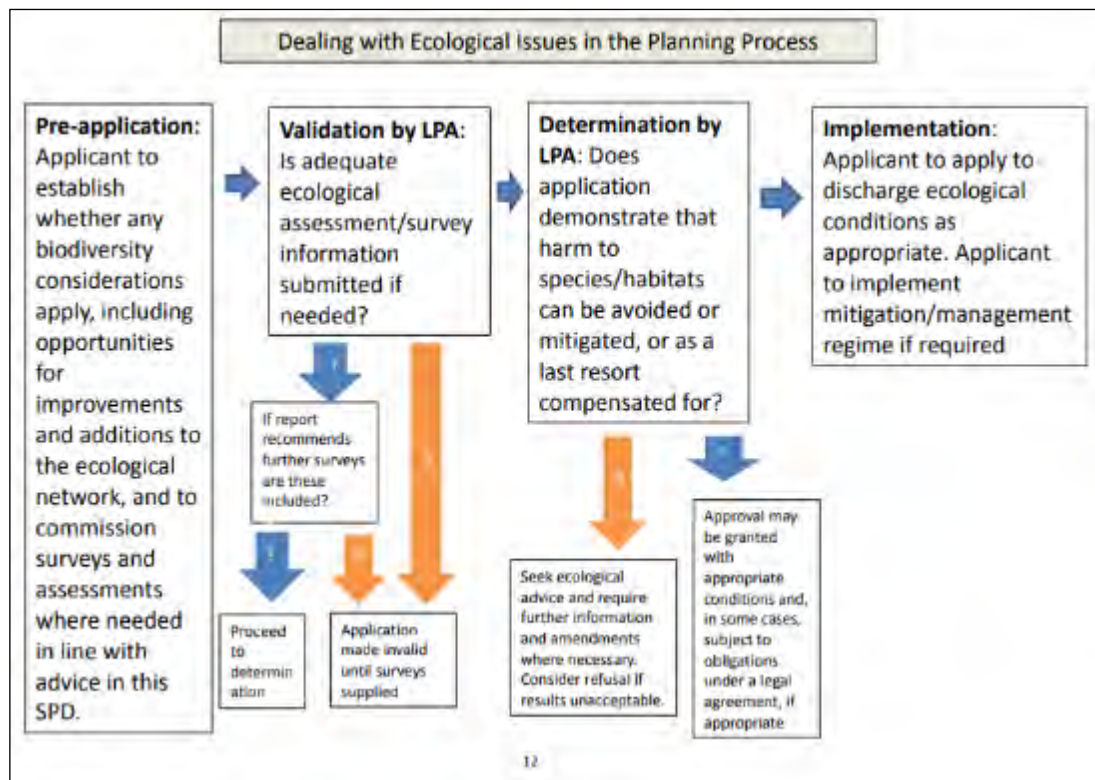


Figure 2.1 – Dealing with ecological issues in the planning process

3.0 Priority Habitats & Species

- 3.1 In the United Kingdom, legal protection and otherwise legislative recognition is afforded to particular habitats and species. Certain habitats and species are considered to hold nature conservation importance and are thus protected due to factors such as their ecological functionality, connectivity, rarity, their vulnerability, environmental importance, or declining population/status. They are referred to as priority habitats and priority species.
- 3.2 The UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance - now transposed under Section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act).
- 3.3 The following Section 41: Habitats of Principal Importance in England and Section 41: Species of Principal Importance in England are considered relevant to the appraisal:

Habitats:

- Standing open waters and canals, Hedgerows, Neutral grassland.

Species:

- Bats: Brown Long-eared (*Plecotus auritus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Common Pipistrelle (*Pipistrellus pipistrellus*),
- s.41 Bird species that include but not limited to: Song Thrush (*Turdus philomelos*), Dunnock (*Prunella modularis*), Bullfinch (*Pyrrhula pyrrhula*), House Sparrow (*Passer domesticus*), Starling (*Sturnus vulgaris*), Willow Tit (*Parus montanus*) for e.g.,

- Land mammals that include: Water Vole (*Arvicola amphibius*), Otter (*Lutra lutra*), Hedgehog (*Erinaceus europaeus*), Brown hare (*Lepus europaeus*), for e.g.,
- Herpetofauna that include: Great Crested Newt (GCN) (*Triturus cristatus*), Slow-worm (*Anguis fragilis*), Common toad (*Bufo bufo*), Common lizard (*Zootoca vivipara*), for e.g.,
- Botanical species that includes Purple ramping-fumitory (*Fumaria purpurea*), Bluebell (*Hyacinthoides non-scripta*), Cornflower (*Centaurea cyanus*) for e.g.

3.4 Local Biodiversity Action Plans (LBAP's) are a way of encouraging people to work together to deliver a program of continuing action for biodiversity at a local level. LBAPs also embrace the idea of 'local distinctiveness'; habitats and species which are not considered UK conservation priorities can be catered for by LBAPs if they are of particular local significance.

3.5 LBAP's set out practical steps that aim to:

- Help protect biodiversity;
- Enhance and improve biodiversity where possible, and,
- Promote biodiversity at a local level.

3.6 The Greater Manchester Biodiversity Action Plan (GM BAP, 2009) lists key local habitats/species considered to be rare or declining in the area; some may be of national concern while others are significant at local level. The following local plans are considered of potential relevance to the survey.

Species

- Bats (all);
- Black Redstart (*Phoenicurus ochruros*)
- Native Black Poplar (*Populus nigra* subsp. *betulifolia*);
- Twite (*Carduelis flavirostris*);
- Willow Tit (*Poecile montanus*).

Habitats

- Hedgerows

4.0 Methodology

4.1 As part of the ecological appraisal report, a desk-top and field-based study is conducted. Methods for both components of the appraisal are given below.

Desktop Study

4.2 Prior to a site visit a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations within 2.0 kilometres of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGiC – provided by DEFRA) was accessed to gather such information; this particular interactive mapping service was also used to locate any locally granted European Protected Species Mitigation Licenses (EPSML) and species records to further inform conclusions concerning such species in the context of the study site and its proposed development.

4.3 Historic satellite imagery was reviewed using sources such as Google Earth (© 2021/22) to help establish past use of the land and determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.

4.4 In addition, the Council Planning Portal 'Search for planning applications' function (Manchester City Council, 2022) was utilised to help inform the desktop study by analysis of existing publicly accessible ecological survey results that have been carried out locally within the previous five years.

4.5 A commercial data request to the Local Environment Records Centre serving the area Greater Manchester Ecology Unit (GMEU) has not been sourced at this time:

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states:

"It is generally expected that a desk study, including a data search, will be a key part of the ecological surveys or reports produced to inform a planning application. Freely available web-based sources of data and contextual information should always be used; in some cases, it may be acceptable to not undertake a data search with the LERC or other relevant NSS or local interest groups, for example:

ii) Situations where the data search would be extremely unlikely to provide information needed to inform the assessment, due to the scale and location of the proposed development. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact. It can be very difficult to demonstrate that a data search would not have provided relevant information without obtaining and reviewing those data.

iii) In some cases for Preliminary Roost Assessments of buildings in low impact / small-scale scenarios, such as an extension to a residential property, loft conversions (full or partial), installation of Velux/dormer windows, single modern agricultural or similar building conversion or demolition; however, it should not be assumed that data searches are never required for such scenarios and this must be judged on a case by case basis and justified accordingly.

2) The Guidelines for Preliminary Ecological Appraisal, 2nd Edition (CIEEM, 2017) also states:

"Very occasionally it might be possible to carry out a robust PEA without obtaining LERC/NBDC/CEDaR data; this will usually only apply to low impact or small-scale projects (e.g. by virtue of size, extent, duration of works, magnitude and locality), and should be determined on a case-by-case basis."

4.6 Reptiles are likely to be using the site and further surveys have been recommended for this taxon, however, given the lack of suitable habitat for other protected species, it is considered unnecessary to conduct a commercial data search at this time, as enough information has and will be obtained during the survey effort. If, however, a data search is considered to be necessary by the Local Authority, or environmental advisory body, to better inform the appraisal, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued/updated report.

Field Survey

4.7 A daytime preliminary ecological appraisal was conducted on the 29th March 2022 in dry, overcast conditions (10°C), average wind 2/12 (Beaufort scale), average 100% cloud cover, by the following surveyors (Table 4.1).

Table 4.1 – Site Surveyor credentials

Name	Description of most relevant credentials
Mr. J. Pescod Qualifying CIEEM (Consultant Ecologist)	• Five years professional consultant experience & extensive training; • Accredited agent on the Class 2 Natural England bat licence of Mrs K Wildling (CLS-14227), and Great Crested Newt: CL08 Class 1 licence 2018-34062-CLS-CLS England of Mr. M. Pritchard
Mr. B. Richards Qualifying CIEEM (Trainee Ecologist)	• Currently undergoing extensive training • Holds an MBiolSci in Biological Sciences (Zoology); • Qualifying CIEEM member.

Floristic assessment

- 4.8 The survey followed the UK Habitat Classification Version 1.1 (Butcher *et al.*, 2020) being introduced as part of the roll out of Biodiversity Net-gain, with reference to the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology standards (JNCC, 2010) and reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series “*Guidelines for Preliminary Ecological Appraisal, 2nd Edition*” (CIEEM, 2017).
- 4.9 During the survey walkover, botanical assemblages were assessed, and the land was inspected for the presence of red-listed (Stroh *et al.*, 2014; Hodgetts, 2011), s.41 and LBAP species alongside specially protected species as listed under Schedule 8 of the Wildlife and Countryside Act (WCA) (1981) (as amended) and / or Schedule 5 The Conservation of Habitats and Species (amendment) (EU exit) Regulations (2019). Species nomenclature follows Stace, C. (2019) – definitive English names.
- 4.10 Additional to attributing ecological value to red-listed / BAP species, in accordance with existing CIEEM guidance, a geographic frame of reference is also adopted. Plant species and habitats may be recognised for their ecological value on a geographical scale which is adopted on a site-to-site basis (see Figure 4.1).
- 4.11 The site was also assessed in relation to the presence of invasive non-native species (INNS) as listed under Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) (as amended).

For a full compiled botanical species list, see Appendix II.

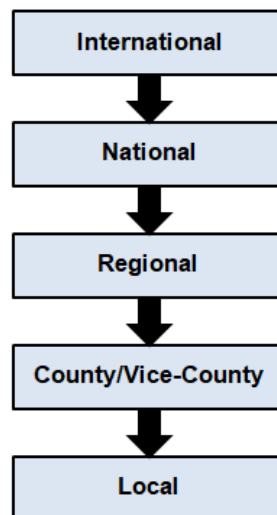


Figure 4.1 – Geographic Frame of Reference entailing degrees of conservation importance

Faunal assessment

- 4.12 During site walkover the identification and/or evidence of priority fauna encountered was documented, whilst in tandem the area was assessed for the potential to support the priority species touched upon in Section 3.0. The walkover also aimed to identify any ephemeral pools or unmapped waterbodies.

Bats

- 4.13 The site was assessed for bats; buildings (where present) were inspected for potential places that may be of value to bats and to determine evidence of use. This typically involves a search for potential roost features (PRF) both internally (investigation of loft spaces/upper floors/internal elevations) as well as externally, comprising an investigation of features (roof material, building components) using a high-powered torch. Field signs of bats typically comprise bat droppings, incidental animal presence, dead specimens and/or prey items. The surrounding habitat was also considered in terms of general suitability.
- 4.14 The site was assessed for bats; trees (where present) would be inspected for places that may be of value to bats and to determine if evidence of use was present; this typically involves a search for potential roost features along with an investigation of those features using a high-powered torch or close focus binoculars. Potential roost features can include woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed lifted 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 with stem diameters in excess of 50mm or bat/bird boxes.
- 4.15 Criteria for preliminary bat roost assessment are based upon the determinants given in the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016): (see Figure 4.2).
- 4.16 Factors considered during the preliminary roost assessment include:
- Knowledge of bat species relevant to the site location and geographical range,
 - Nature of the immediate / surrounding habitat in relation to foraging opportunities,
 - Presence and conditions of loft spaces, upper floors, roof linings,
 - Presence / absence of roost potential,
 - Value and types of roost potential, if present (i.e. - maternity, hibernation, transition).

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation ¹). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	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 fruit in a parkland situation or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after preference is confirmed).	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 connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

¹ For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
² Evidence from the Netherlands shows that searching events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Ripstein et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.
³ This system of categorisation aligns with BS 9502:2015 Surveying for bats in trees and woodland (BSI, 2015).

Figure 4.2 – Bat Conservation Trust (BCT) guidelines extract

Breeding Birds

4.17 The site was inspected for evidence of nesting and suitability for relevant species. Bird species observed and heard were recorded on site, and a search was made for nest material, or areas suitable for nesting - this can take the form of searching structures, woody vegetation, semi-aquatic vegetation such as reeds and/or the ground. Elevations were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example:

- House Martin (*Delichon urbica*): Birds of Conservation Concern (BoCC) amber status,
- House Sparrow (*Passer domesticus*): BoCC red status,
- Starling (*Sturnus vulgaris*): BoCC red status,
- Swift (*Apus apus*): BoCC red status.

4.18 Additional to the site's capacity to support generally common species for breeding, the area was also subject to an assessment for wider capacity to support species with extra protection under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended), for example Black Redstart (*Phoenicurus ochruros*) and other priority species.

Water Vole & Otter

4.19 Survey methodology detailed in 'The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series) Eds. Fiona Mathews and Paul Chanin (Dean et al., 2016), was applied for the assumed area of standing water identified on OS maps and site plans; these areas were subject to a suitability assessment for use by Water Voles. This included a preliminary search for:

- *Sightings* – confirmed sighting of a Water Vole during the survey.
- *Latrines* – collections of droppings.
- *Burrows* – holes along the water's edge and in the bank above.
- *Footprints* – forefoot and hind foot.
- *Pathways in vegetation* – low runs or tunnels pushed through vegetation.
- *Feeding remains* – piles of chewed lengths of vegetation with 45 degree cuts to the ends.
- *Cropped grass around tunnel entrances* – grazed vegetation to form a 'lawn' around burrow.

- 4.20 Whilst conducting the search for Water Vole evidence, the same areas were searched and appraised relative to Otter. During the survey, the banks and any exposed areas were investigated for signs of use, such as Otter spraint (droppings), shelter used by Otters such as underground holts and above ground couches, feeding remains and Otter tracks.

Other terrestrial mammals

- 4.21 The walkover included a search for field signs of Badger (*Meles meles*) which includes signs of activity such as prints, hairs, digging, setts, 'runs' leading to and from a sett and the existence of latrines or 'snuffle' holes where badgers have foraged in the ground. The application site was also assessed for the presence/suitability of Hedgehogs.

Great Crested Newt (GCN)

- 4.22 During desktop assessment a 250m search was undertaken from a site-central grid reference in relation to the presence of ponds, ditches or other water bodies that may support Great Crested Newts (GCN) (*Triturus cristatus*). The information gathered would then be used to aid in establishing if more detailed surveys are required.

NB: *English Nature's (now Natural England) Great Crested Newt Mitigation Guidelines (2001) states ponds within 500m of a proposed development site should be considered for their potential to support GCN, however, in some instances this distance may be reduced to 250m due to the presence of physical barriers and obstructions or based on the likely magnitude of impacts arising from the proposed development.*

- 4.23 Following current best practice considering the national roll out of District Level Licencing (DLL) across England and based on likely effects, a proportionate assessment of any water bodies range within 250m from site has been applied. Where a development is anticipated to affect GCN the search can be extended up to 500m or more.
- 4.24 From the aerial imagery and desk study, it was assumed that there was a single standing water body within the site boundary, however during the survey this was determined to be not a standing water body but instead a ditch which contained no water but rather just a thick covering of mud / sludge. No other standing water bodies are present within a 250 metre radial buffer of the site.
- 4.25 The GCN Habitat Suitability Index (HSI) was therefore not utilised as there were no standing water bodies to be assessed.

Reptiles

- 4.26 The site and its surroundings were assessed for suitability for use by reptiles, with particular attention paid to features that could be used as basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, leaf litter, piles of hardcore) and opportunities for foraging (e.g. rough grassland and scrub). Beebee & Griffiths (2000) state specific habitat preferences of common UK reptiles:

- Common Lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to heaths, walls and pastures, as well as brownfield sites,
- Slow-worm (*Anguis fragilis*) use similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land under refugia,

4.27 In assessment of a site for reptiles several important habitat characteristics are considered, outlined in Table 4.2 below, as derived from the *Reptile Habitat Management Handbook* (Edgar *et al.*, 2010).

Table 4.2 – Important habitat characteristics for reptiles

1. Location (in respect of species range)	7. Connectivity to good quality habitat
2. Vegetation structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

4.28 The results, conclusions and recommendations of this report are based on a number of factors i.e.

- Skills and experience of the surveyor,
- Knowledge of flora and fauna relevant to the site location and geographical range,
- Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities.

4.29 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, Director of Tyrer Ecological Consultants Ltd, and her assessment concurs with the findings and recommendations of the surveyors Mr. Pescod and Mr. Richards.

5.0 Limitations

5.1 This report does not contain a comprehensive list entailing the totality of botanical taxa on site. Though the list is extensive, the PEA took place during a sub-optimal time of the year; species recorded within Appendix II were recorded from a combination of the seasonal timing the survey took place and botanical identification skills of the survey team. Many plant species are only evident at certain times of the year; consequently, it is possible that some plant species may have gone undetected.

5.2 The survey took place outside of the typical bat and at the beginning of the breeding bird 'active' season thus within a sub-optimal period; though this can reduce the probability of encountering any fresh evidence of these groups at/around structures and trees, the value and suitability of potential roost/nesting opportunities can, however, be adjudged as definitively as within the active season, therefore timing is not considered a constraint.

5.3 In considering all possible survey constraints, no significant limitations were experienced that might adversely influence the results, conclusions, and recommendations of this report.

6.0 Desk Study Results

6.1 123 Levenshulme Road and associated land (referred to in part as "the application site" and "the site") covers an area of circa 0.5 hectares. The application is made up largely of open grassland / scrub, with a small area of hardstanding to the west of the site and a small toilet block immediately south of the hardstanding (see Figure 6.1).

- 6.2 The application site is located in Gorton and is set approximately 5.50 kilometres south-east of Manchester city centre (see Figure 6.2).
- 6.3 The immediate habitat is largely urban in nature, with typical associated infrastructure such as road networks, residential properties with associated gardens and hedgerows, as well as commercial premises and businesses. The Hope Valley railway line passes directly adjacent to the application site and is flanked by linear hedgerows and lines of trees on both sides, with other semi-natural environs limited to open sports fields and Gorton Cemetery to the east, which provide large, open expanses of semi-natural grassland.
- 6.4 The extending environment is largely similar to that of the immediate, with further urban and sub-urban environs present such as large quantities of housing, a variety of schools, other commercial premises as well as road networks such as the A57, which passes approximately 0.54 kilometres to the north of the site, and the M60 motorway which is situated just over 2.0 kilometres to the east of 123 Levenshulme Road. Semi-natural environs include areas of Priority Habitat Inventory – Deciduous Woodland in Nutsford Vale Park, located approximately 0.5 kilometres to the west of the site. Aquatic habitats are also present, with Gorton Lower Reservoir positioned 0.87 kilometres north-east of the site, and Fallowfield Brook located 1.64 kilometres to the south, and further areas of woodland can also be found surrounding both locations.
- 6.5 Collectively, the described ecological networks in the extending environment provide an assortment of various habitat types, with corridors of connectivity between these areas and the application site present in the form of linear hedgerows and lines of trees. The protected species group most typically associated with the habitat types described are bats, namely the Common Pipistrelle (*Pipistrellus pipistrellus*) bat which is typically associated with roosting in buildings set in sub-urban environments.
- NB:** *Where quality habitat is present close to buildings then the percentage use of those buildings, by bats, increases given that roost opportunities are available and vice versa.*
- 6.6 There is one statutory designated site for nature conservation within 2.0 kilometres of the application site:

Table 6.1 – Statutory designation types and reasons for designation within 2.0 kilometres buffer

Site name	Designation type	Interest features
Highfield Country Park (1.36 kilometres south)	Local Nature Reserve (LNR)	A 28.58 hectare site comprised of various grassland types, marshy grassland, scrub, wet woodland, ponds, relict hedges and plantation woodland. Fallowfield Brook also runs through the park, with the site originally being used as a clay pit for the construction of bricks.

- 6.7 From the aerial imagery and desk study, it was assumed that there was a single standing water body within the site boundary, however during the survey this was determined to be not a standing water body but instead a ditch which contained no water but rather just a thick covering of mud / sludge. No other standing water bodies are present within a 250 metre radial buffer of the site.

Notable species records

- 6.8 One European Protected Species Mitigation Licence (EPSML) has been granted within a 2.0 kilometre radial buffer of the site; this pertains to a non-breeding Common Pipistrelle roost, and is situated 1.63 kilometres west of the application site.
- 6.9 A search of LERC submitted records held by Tyrer Ecological Consultants Ltd, in this case Greater Manchester Ecology Unit (GMEU), found that there were no previous records of bat roosts within 2.0 kilometres of the application site.



Figure 6.1 – EPSML and designated site data for the area within 2.0 kilometres of the application site, with EPSMLs circled in black (Source: MAGiC 2022)

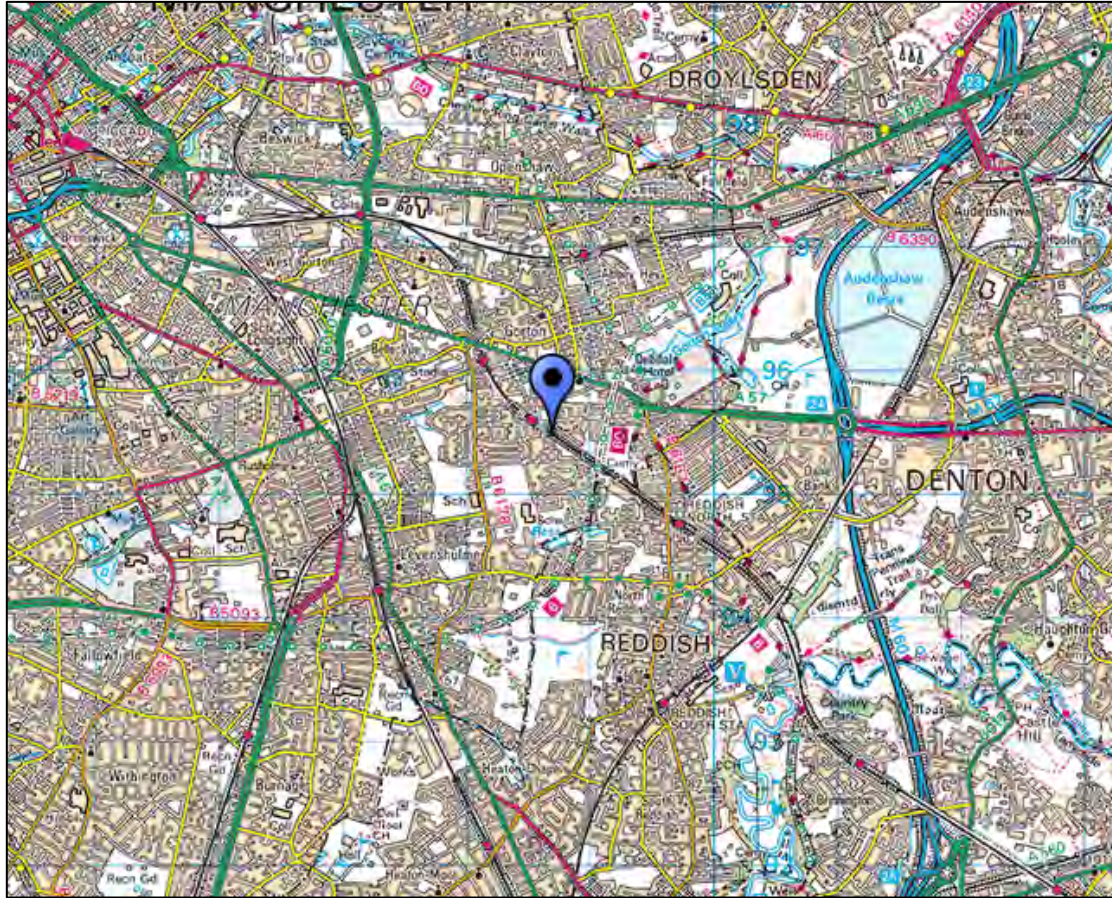


Figure 6.2 – Location of the application site within the landscape (Source: [BNHS Grab a Grid Reference Duo / OS Maps 2022](#))

7.0 Field Survey Results

7.1 Habitat Survey

- 7.1.1 See Table 7.1 (below) for baseline information and habitat descriptions; refer to Appendix I for any supporting imagery; scientific names are given in Appendix II. Refer to Appendix IV - UK Habitats Map for the location of described habitats & Target Notes (TN).

Table 7.1 – UK Habitat types within the survey area

Broad Habitat	Sec. Codes	Description
u1b5 – building	-	A single structure was located on the site – see Section 7.3 for further information
g3c – other neutral grassland	10, 14, 17, 69, 73, 310	The vast majority of the site falls under this categorisation, with species such as Perennial Ryegrass, Yorkshire-fog, Red Fescue and Common Bent dominant. See Appendix II for further information on botanical species present. Bare ground to the west of the site is also included.
h3d – bramble scrub	69	Dense scrub is present along the eastern boundary, with Bramble the dominant species.
h3h – mixed scrub	69	The eastern edge of the site is categorised as dense scrub which has no particularly dominant species, with Bramble, Stinging Nettle and various grass and rush species present.
w1g6 – line of trees	69	A linear row of trees flanking the water body to the south-eastern end of the site, with species including Elder, Ash and Willow.
w1g6 – line of trees	69	A linear row of trees along the boundary fence at the north-eastern edge of the site, with species including Willow.
Target Notes		
1	Location of breezeblocks piles on pallets	
2	Location of motorhomes on the survey date	
3	Locations where corrugated metal sheets were found along the boundary	
4	Locations where amenity structures had been constructed, likely by the inhabitants of the motorhomes	

7.2 Vegetation

Notable species

- 7.2.1 No species of conservation importance were identified anywhere within the site during the site walkover.

Invasive Species (INNS)

- 7.2.2 No invasive non-native species listed ‘alien invasive’ under Schedule 9 (Part II) of the Wildlife & Countryside Act (1981) were identified within the red line site boundary.

7.3 **Bats**

- 7.3.1 A single building is present on the application site, located just south of the area of bare ground which adjoins the site to Levenshulme Road. Structurally, it is a detached, single storey, timber-built building with a mono-pitched, plastic-covered roof. Collectively, the structure features components such as two timber doors, lighting on the eastern elevation and timber batons attaching the plastic roof to the building itself. In respect of its condition, the surveyor is not qualified to assess structural state, however the aesthetic condition of the building is adjudged to be poor.
- 7.3.2 The building was unable to be accessed internally, however, anecdotally it is understood to be in use as a toilet block for the inhabitants of the site. It is clearly a single storey building with no loft space present.
- 7.3.3 Given the nature of the space, it is considered unsuitable for the typical breeding preferences of loft-dwelling bats such as Brown Long-eared bats (*Plecotus auritus*), given the lack of loft space and the ramshackle nature of the structure. The surrounding habitat is also considered unsuitable for these bats given the lack of dense woodland in the vicinity of the site.
- 7.3.4 It is considered unlikely that a bitumastic underfelt is present due to the lack of roofing tiles and presence of a plastic covering on the roof; where present bitumastic or other such underlining typically improves a building's value to bats, notably for crevice-dwelling bats of the *Pipistrellus* genus, whereby the bats roost between linings and the roof cover material provided external access opportunities exist. Conversely, an absence of roof linings can lower a structure's value in the same respect.
- NB:** *The breeding roosts of Pipistrelle bats are proportionally higher in occupied residential dwellings where the warm, dry conditions favour the requirements of a maternity colony but other structures are also used, especially for hibernation or by male bats, which do not need the same conditions as a maternity colony.*
- 7.3.5 Externally, the building was found to be of a generally tight-fitting nature, with no clear areas of entry. The recently applied plastic sheeting on the roof was also in good condition, with no potential ingress points observed by the surveyors.
- 7.3.6 There are a number of trees within the application site; these were located along the southern and eastern boundaries. The scattered trees on the southern boundary were too immature to offer any areas of bat roost potential, so have been discounted. The trees on the eastern boundary were larger, however none were observed to offer any bat roost potential. All trees present in the immediacy should be considered highly valuable to bats in a local context in that they likely provide valuable foraging/commuting habitat. New lighting should consider bat foraging/commuting and should be prevented from shining directly at treelines.

7.4 **Breeding Birds**

- 7.4.1 In relation to WCA Schedule 1 specially protected bird species such as Black Redstart, no evidence was found to suggest any form of site use or historic nesting, and the setting offers no real feeding value to this species. Records of Black Redstart suggest they are more prominent towards the city centre where green roofs, old canals, warehouses and large public buildings with ephemeral roofs offer more variety and opportunities for this species to thrive.
- 7.4.2 Regarding wider breeding birds, no direct evidence was observed during the daytime field survey, although a number of bird species were observed to be using the site for foraging and commuting purposes.

There are, however, a plethora of viable nesting opportunities for smaller birds across the site; as breeding birds are protected during nesting / when at the nest, timings implications are therefore applicable in order to avoid disturbing or injuring breeding birds.

7.4.3 The following bird species were observed during the survey (see Table 7.2):

Table 7.2 – Bird species encountered during the survey

Species	Scientific Name	Status	Context (where relevant)
Dunnock	<i>Prunella modularis</i>	Amber	Seen in trees along southern boundary
Starling	<i>Sturnus vulgaris</i>	Red	Seen in trees along southern boundary
Robin	<i>Erithacus rubecula</i>	Green	Seen in trees along eastern boundary
S.41 - a bird listed on section 41 of the Natural Environment Rural Communities Act 2006 (NERC Act) LBAP - A local biodiversity action plan listed species Q - Qualifying species of nearby SSSI site(s) SPEC - a species of conservation concern, Amber or Red, Red being the highest conservation priority			

7.5 Other Terrestrial Mammals

Water Vole & Otter

- 7.5.1 The ditch located at the southern boundary of the site was not considered suitable for usage by Water Vole, with a lack of presence of water and lack of connectivity to other, more suitable water courses ruling out the possibility of this species utilising the site. Furthermore, no evidence of water vole was found during the PEA.
- 7.5.2 In respect of Otter, the site is again considered unsuitable for the same reasons as previously mentioned for Water Vole, with the distinct lack of suitable surrounding habitat and connectivity effectively ruling out this site for use by this species. In addition, no evidence of this species was observed during the PEA.

Badger & Hedgehog

- 7.5.3 No field signs were located to suggest the presence of Badgers on the application site; these signs include setts, latrines, pathways, hairs, footprints or feeding signs such as snuffle holes and/or scratched logs/deadwood. The surrounding habitat is considered to be highly unsuitable for badgers, with no areas of woodland in the immediacy or linked to the site via corridors of connectivity. Impacts to Badger can be effectively ruled out under the proposed works.
- 7.5.4 Regarding Hedgehogs, the variation in vegetation height and density across the site, with the patchy, scrubbed areas as well as the single building providing areas where a Hedgehog would be able to reside. The whole site provides suitable foraging and commuting habitat and given that this species is highly adapted to urbanisation, there is a high probability that this species is present. No hedgehogs or field signs were seen during the survey though hedgehogs are a nocturnal species more often encountered at night. Reasonable Avoidance Measures (RAMS) are therefore recommended.

7.6 Herpetofauna

GCN

- 7.6.1 In order to assess risk to GCN, a number of factors need to be considered. These include:
- Site proximity to a potential breeding pond and to any additional ponds,
 - Habitat linkage / barriers between potential breeding ponds and the site,
 - Nature and extent of available terrestrial habitat (50-100m) around the pond(s),
 - Area of site habitat loss and permanence of that loss,
 - Nature of habitat to be lost and its potential value to GCN as refuge/overwintering habitat.
- 7.6.2 From the aerial imagery and desk study, it was assumed that there was a single standing water body within the site boundary, however during the survey this was determined to be not a standing water body but instead a ditch which contained no water but rather just a thick covering of mud / sludge. No other standing water bodies are present within a 250 metre radial buffer of the site.
- 7.6.3 Given the nature of the ditch, it was not scored using the HSI as it was considered entirely unsuitable for GCN.
- 7.6.4 Imagery of the previously assumed standing water body can be viewed in Appendix I.

Wider herptiles

- 7.6.5 Given the habitat within the site, such as the muddy ditch and thick, tussocky grassland which retains water well, the application site could feasibly support generalist, more robust common amphibians including Common Frog (*Rana temporaria*) and Common Toad (*Bufo bufo*), subject to their presence in the landscape.
- 7.6.6 Reasonable Avoidance Measures (RAMS) will be recommended with regards to other amphibians.
- 7.6.7 The site provides a highly hospitable environment for reptiles; all of the typical reptile habitat qualities are present across the site, including varied topography and insolation levels, ecotones between shelter and hunting environs, suitable basking and hibernating areas alongside areas where the animals could potentially breed. There are plenty of corrugated metal sheets laying along the boundary fence on the eastern and southern side which also provide further suitability. The proximity to a rail network also increases the chance that reptiles could be utilising the site; many species of reptile in the UK are known to favour this habitat due to favourable basking conditions along the lines. As reptiles are notoriously difficult to detect even when present in favourable numbers, an absence of reptile records is not always conclusive evidence of absence.
- 7.6.8 With the site proposed to be heavily impacted by the development works, further surveys will be required in order to determine the species as well as the way in which reptiles are using the site.

7.7 Invertebrates

- 7.7.1 An assessment of habitats and features on site found a variety of ecotones as well as areas of deadwood which would provide suitable habitat for invertebrates. In terms of local significance, the application site is likely to be one of the most suitable areas for invertebrates in the vicinity, mitigation measures are therefore recommended.

7.7.2 The following invertebrate species were encountered during the survey (see Table 7.3):

Table 7.3 – Invertebrate species encountered during the survey

Species	Scientific Name	Conservation Status	Context (where relevant)
Buff-tailed Bumblebee	<i>Bombus terrestris</i>	Common	Seen amongst the scattered scrub in the centre of the site
Small Tortoiseshell	<i>Aglais urticae</i>	Common	Seen flying about the grassland

8.0 Conclusions & Recommendations

Habitats & Vegetation

- 8.1 No habitats or species of conservation importance were identified within the application site boundary; nor were any invasive species listed as such under Schedule 9 of the WCA (1981). Therefore, there are no further recommendations considering priority habitats or invasive species at this time.
- 8.2 As a means of improving biodiversity value / enhancing the site any new landscaping should aim to incorporate majority use of native species as opposed to non-native exotic species which offer significantly fewer benefits to our native fauna. Suitable species for native landscaping have been provided in Appendix III.

Bats

- 8.3 Based upon the findings of the survey covered through Sections 6.0 – 7.0 of the report whilst following best practice guidance, the singular building identified on site has been duly categorised as offering ‘**Negligible**’ bat roost suitability in accordance with the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) (see Figure 8.1), with no further surveys required in relation to bats.

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.		
Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

Figure 8.1 – Bat Conservation Trust (BCT) extract on Negligible roost potential requirements

- 8.4 None of the trees or vegetation on site were adjudged to have any bat roost suitability, so no further surveys are required in relation to bats and trees.
- 8.5 All trees present in the immediacy should, however, be considered highly valuable to bats in a local context in that they likely provide valuable foraging/commuting habitat; therefore, any loss of scattered trees should be compensated with native species planting at least 2:1 ratio.
- 8.6 Bats are a transient species and buildings can deteriorate over time. In the highly unlikely event that bat(s), or evidence of bat(s), are found during proposed works then as a legal requirement the work at the site should immediately cease and an Ecologist be contacted for further advice. If bat(s) or their roost(s) will be affected, then an EPSML may be required to legally commence with the works. See Figure 8.2 for indicative evidence of bats.



Figure 8.2 – Evidence of bats – droppings on the left / a Common Pipistrelle bat on the right - indicative

- 8.7 Installation of harsh artificial lighting as part of any development that exceeds current levels could have a negative impact upon foraging/commuting bats in the landscape, particularly if increased light spillage occurs in areas of that are currently free from illumination. A bat-sensitive lighting plan is recommended as part of the scheme in order to avoid potential impacts to bats that may use the site. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Lighting Guidelines for further information.

Appropriate luminaire specifications: Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires.

All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. Lighting should be directed to where it is needed, and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Predicting where the light cone and light spill will occur: There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels: The light should be as low as guidelines permit. If lighting is not needed in any particular area, do not light. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site.

Please refer to the 'Landscape and urban design for bats and biodiversity' (Gunnell *et. al.*, 2012, Bat Conservation Trust) Guidance Note 8 'Bats and Artificial Lighting' 2018, Bat Conservation Trust for further information.

Breeding Birds

- 8.8 In relation to WCA Schedule 1 specially protected bird species such as Black Redstart, no evidence was found to suggest any form of site use or historic nesting, and the setting offers no real nesting value to this species. No other Sch.1 species will be impacted. No recommendations therefore need be applied in relation to specially protected bird species.
- 8.9 Regarding wider breeding birds, no direct evidence was observed during the daytime field survey, although a number of bird species were observed to be using the site for foraging and commuting purposes. There are, however, a plethora of viable nesting opportunities for smaller birds across the site; as breeding birds are protected during nesting / when at the nest, timings implications are applicable in order to avoid disturbing or injuring breeding birds.
- 8.10 It is recommended that no removal of, or works to demolish, trees, mixed scrub or patchy areas of bramble scrub that may be used by breeding birds shall take place during the main bird breeding season (1st March to 31st August inclusive), unless a competent Ecologist has undertaken a careful, detailed check of vegetation for active birds' nests immediately before the vegetation is cleared and provided written confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect nesting bird interest on site.
- 8.11 Where/if active nests are located by the Ecologist, then any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, this can be aided, for example, via implementation of appropriate buffer zone(s) around the nest site (typically 5-10 metres) in which no disturbance is permitted until the nest is no longer in use. This would have to be coordinated through the expert judgement of the professional ecologist and species pending.

Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as: "*a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management.*"

NB: *All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected from destruction, damage and disturbance under the Wildlife & Countryside Act 1981 (as amended). It is a punishable offence to interfere in any way with an active nest.*

Other Terrestrial Mammals

Water Vole & Otter

- 8.12 The site was not determined to offer any potential to either Water Vole or Otter, with the nature of the assumed water body as well as the lack of connectivity to other water bodies meaning that it is considered wholly unsuitable that either species are utilising the site.

Badger & Hedgehog

- 8.13 No impacts are forecast in relation to Badgers, and no further surveys are necessary.

8.14 Hedgehog are highly likely to use the site for hibernation, shelter, foraging and commuting. The proposals pose a risk of injury and disturbance impacts. Therefore, a programme of Reasonable Avoidance Measures (RAMs) should be undertaken and carried out at the site during development, particularly where excavations / trenches will be made. These should include:

- limiting working hours to the daylight,
- carrying out morning checks for the presence of hedgehogs and other small animals,
- provisioning low angle sloping boards of approximately 300 mm wide to be placed within any excavations at the end of each working day, to facilitate a means of escape for mammals such as hedgehogs,
- backfilling excavations at the end of the working day, if possible,
- not leaving any bulky equipment / general construction aggregates around the development area, instead leave them on bare ground away from the risk zone.

Herpetofauna

GCN

8.15 Given the nature of the assumed water body on site and lack of other ponds / waterbodies within a 250 metre radial buffer, it is considered that the likelihood of GCN utilising the site is negligible, and no further surveys or recommendations are required in relation to this species.

Wider Amphibians

8.16 There is a reasonable likelihood of Common Frog and Common Toad being present on site. Due to general declines in most British amphibian species in recent years, it is therefore recommended, as a precautionary measure, that an appropriate Method Statement is created by a suitably qualified Ecologist/Ecological Clerk of Works (ECoW), detailing a list of Reasonable Avoidance Measures (RAMs) to prevent risk to this species.

8.17 If in the event any amphibians are encountered during any stage of site operations, and they are at risk of harm, site personnel are advised that using wet gloves they should be removed from harm by being carefully handled and removed off the construction site to be placed in nearby like-for-like habitat.

Reptiles

8.18 In respect to UK reptiles, the site is of high suitability, with the low disturbance regime alongside the heterogeneous nature and topography of the site providing reptiles with a wide diversity of habitats, as well as likely supporting a high number of prey items. The site is likely to be used for hunting, basking and hibernation, subject to the presence of reptiles within the site. No evidence of reptiles was discovered during the survey; however, it should be stated that March is not a suitable period of the year to provide an accurate impact assessment for reptiles.

8.19 Reptile surveys are therefore recommended in order to determine presence/absence of this group, in accordance with current best practice guidelines (Froglife, 2015; GOV.UK, 2015) (see Figure 8.3). Survey effort that deviates from the given guidance may be adjusted using only the knowledge and experience of the ecologist following the first three – four visits. Further recommendations in relation to mitigation or enhancement required in relation to reptiles should be made following the surveys.

The recommended minimum number is seven visits. Each survey session should be planned to take less than 2 hours. A suggested pattern is:

VISIT 1-2: Mid-March - early April

VISIT 3-4: April - May

VISIT 5-6: Late May -end June

VISIT 7: Late Aug - Late Sept

**Walkabout & Inspection of placed refugia:
March - June and September**

Figure 8.3 – Extract from “Froglife – Surveying for Reptiles”

Invertebrates

- 8.20 Taking into account the presence of ecotones and other important habitats such as areas of deadwood, in addition to the site itself being highly distinctive in the context of the local environment, invertebrates are determined to utilise the site for a variety of purposes, and it is deemed that the site is of local significance to invertebrate assemblages or specially protected invertebrates, subject to their presence. Major impacts are foreseen for this species group; mitigation and enhancement measures have therefore been suggested in Appendix III, and these should be incorporated into the subsequent development plan.

Enhancement

- 8.21 General recommended ideas to enhance the site in accordance with the principles of ‘Biodiversity Net Gain: Good practice principles for development’ (CIEEM *et. al.*, 2019), are presented in Appendix III.

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Appendix I: Site Photographs



Plate 1 – *The entrance onto the land at 123 Levenshulme Road, with the motorhomes visible*



Plate 2 – *Further angle of the entryway onto the site, with a small area of bare ground*



Plate 3 – Trailer alongside a structure assumed to have built by the current inhabitants of the site



Plate 4 – The northern corner of the site, showing scattered scrub and the linear tree line



Plate 5 – *Closer angle of the scattered shrub in the northern corner of the site*



Plate 6 – *The linear Willow sp. tree line along the north-eastern boundary*



Plate 7 – *The railway lines present in close proximity to the site*



Plate 8 – *General character of the site*



Plate 9 – *The single building present on site, anecdotally understood to be used as a toilet block*



Plate 10 – *The western boundary of the site*



Plate 11 – *Character of the northern end of the site*



Plate 12 – *Evidence of deadwood present on the site*



Plate 13 – *The south-western corner of the site, showing the breezeblock piles which may provide refugia and basking sites for herptiles and invertebrates*



Plate 14 – *The southern boundary of the site*



Plate 15 – *Further angle of the southern boundary, showing the dilapidated nature of the fence*



Plate 16 – *The southern boundary, with the prior assumed area of standing water present beneath the scrub*



Plate 17 – *The muddy ditch along the southern boundary*



Plate 18 – *Closer angle of the southern boundary with Elder trees visible in the foreground*



Plate 19 – *The south-eastern corner of the site*



Plate 20 – *The area of dense bramble scrub in the south-eastern corner of the application site*



Plate 21 – *The eastern boundary of the site, with dogwood present along the boundary fence*



Plate 22 – *Another example of an aggregate pile which could be utilised by herptiles and invertebrates*



Plate 23 – *Further angle of the trailer in the northern part of the site*



Plate 24 – *The ramshackle structure in the northern part of the site*

Appendix II: Botanical Species List

Species nomenclature follows Stace, C (2019) – definitive English names; scientific names for given flora are presented in Appendix II.

Each species recorded was given an abundance value according to the standard DAFOR scale, where:

- D = Dominant
- A = Abundant
- F = Frequent*
- O = Occasional*
- R = Rare*

Any invasive non-native species are denoted by the acronym (INNS).

Taxon	Common Name	Scientific Name	DAFOR
Anthophyta (Flowering plants)	Bindweed species	<i>Calystegia sp.</i>	O
	Bramble	<i>Rubus 'fruticosus'</i>	D
	Broad-leaved Dock	<i>Rumex obtusifolius</i>	O
	Buddleia	<i>Buddleja davidii</i>	O
	Cleavers	<i>Galium aparine</i>	O
	Cock's-foot	<i>Dactylis glomerata</i>	R
	Common Ash	<i>Fraxinus excelsior</i>	F
	Common Bent	<i>Agrostis capillaris</i>	D
	Common Nettle	<i>Urtica dioica</i>	O
	Common Ragwort	<i>Senecio jacobaea</i>	O
	Common Reed	<i>Phragmites australis</i>	F
	Common Vetch	<i>Vicia sativa</i>	O
	Creeping Buttercup	<i>Ranunculus repens</i>	F
	Creeping Thistle	<i>Cirsium arvense</i>	O
	Dandelion	<i>Taraxacum officinale agg.</i>	F
	Dog-rose	<i>Rosa canina</i>	R
	Dogwood	<i>Cornus sanguinea</i>	F
	Dove's-foot Crane's-bill	<i>Geranium molle</i>	F
	Elder	<i>Sambucus nigra</i>	O
	Garden Privet	<i>Ligustrum ovifolium</i>	O
	Hard Rush	<i>Juncus inflexus</i>	O
	Hawthorn	<i>Crataegus monogyna</i>	O
	Herb-robert	<i>Geranium robertianum</i>	F
	Pendulous Sedge	<i>Carex pendula</i>	R
	Perennial Ryegrass	<i>Lolium perenne</i>	D
	Red Fescue	<i>Festuca rubra</i>	D
	Ribwort Plantain	<i>Plantago lanceolata</i>	O
	Soft Rush	<i>Juncus effusus</i>	O
	White Clover	<i>Trifolium repens</i>	F
	Willow species	<i>Salix sp.</i>	O

	Wilson's Honeysuckle	<i>Lonicera nitida</i>	R
	Wood Avens	<i>Geum urbanum</i>	O
	Yorkshire-fog	<i>Holcus lanatus</i>	D
Equisetaceae (Horsetails)	Horsetail	<i>Equisetum arvense</i>	R

Appendix III: Biodiversity Enhancement: General Recommendations

Native Planting and/or Landscaping – Recommended Species

The below species have been assessed against the local soil and habitat types and are deemed suitable for the site. All plant material should comply with the minimum requirements in BS 3936-1: 1992 Specification for trees and shrubs and BS 3936-4: 2007 Specification for forest trees and BS 8545: 2014 Trees from Nursery to Independence in the Landscape. Any plant material, which in the opinion of the appointed Landscape Architect, does not meet the requirements of the Specification, or is unsuitable, or defective in any other way, will be rejected. The minimum specified sizes in the plant schedule will be strictly enforced. The contractor should replace all plants rejected at own cost.

	Common Name	Scientific Name	Planting Preference
Ferns	Male Fern	<i>Dryopteris filix-mas</i>	Semi-shade or shaded
	Soft Shield-fern	<i>Polystichum setiferum</i>	Semi-shade or shaded
	Maidenhair Fern	<i>Adiantum capillus-veneris</i>	Suitable for rockeries / walled gardens
	Royal Fern	<i>Osmunda regalis</i>	Full sun in moist-damp areas
Herbaceous plants	Bloody Crane's-bill	<i>Geranium sanguineum</i>	Dry soils – suitable for rockeries
	Columbine	<i>Aquilegia vulgaris</i>	Semi-shade or open areas
	English Bluebell	<i>Hyacinthoides non-scripta</i>	Moist soils in semi-shade or open areas
	Giant Bellflower	<i>Campanula latifolia</i>	Semi-shade or open areas
	Greater Knapweed	<i>Centaurea scabiosa</i>	Dry-moist soils. Suitable for borders
	Greater Woodrush	<i>Luzula sylvatica</i>	Moist soils in semi-shade or open areas
	Meadow Crane's-bill	<i>Geranium pratense</i>	Humid-moist soils. Suitable for borders
	Musk Mallow	<i>Malva moschata</i>	Dry-moist soils. Suitable for borders and rockeries
	Sea Campion	<i>Silene uniflora</i>	Dry soils – suitable for rockeries
	Stinking Hellebore	<i>Helleborus foetidus</i>	Semi-shade or open areas
Climbers	Honeysuckle	<i>Lonicera periclymenum</i>	Dry-moist soils
	Hops	<i>Humulus lupulus</i>	Dry-moist soils
	Ivy	<i>Hedera helix</i>	Dry-moist soils
	Sweet-briar	<i>Rosa rubiginosa</i>	Dry-moist soils
Woody Shrubs	Blackthorn	<i>Prunus spinosa</i>	-
	Dogwood	<i>Cornus sanguinea</i>	-
	Guelder Rose	<i>Viburnum opulus</i>	-
	Hawthorn	<i>Crataegus monogyna</i>	-
	Hazel	<i>Corylus avellana</i>	-
	Holly	<i>Ilex aquifolium</i>	-
Trees	Alder Buckthorn	<i>Frangula alnus</i>	-
	Osier	<i>Salix viminalis</i>	-
	Pedunculate Oak	<i>Quercus robur</i>	-
	Purple Willow	<i>Salix purpurea</i>	-
	Rowan	<i>Sorbus aucuparia</i>	-

	Silver Birch	<i>Betula pendula</i>	-
	Wild Cherry	<i>Prunus avium</i>	-
Aquatic/marginal plants	Common Water-crowfoot	<i>Ranunculus aquatilis</i>	Ponds
	Marsh Marigold	<i>Caltha palustris</i>	Marginal vegetation
	Ragged Robin	<i>Silene flos-cucculi</i>	Marginal vegetation
	Water Mint	<i>Mentha aquatica</i>	Marginal vegetation
	Water-violet	<i>Hottonia palustris</i>	Ponds
	White Water-lily	<i>Nymphaea alba</i>	Ponds

Enhancing a development site for Breeding Birds

Nesting Birds - Common/Woodland/Garden

This traditional design has proved to be highly effective in attracting robins, as well as other small species such as black redstart, spotted flycatcher and wren. It is designed to be installed on the walls of houses, barns, garden sheds or other buildings and should be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be easily removed for cleaning.

This type of box should not be made conspicuous on a tree or bush because small predators can enter through the unprotected opening. By hanging on a wall, predators won't be able to reach the box. Alternatively hide the box in ivy, honeysuckle or other climbing plants.



See - www.nhbs.com/2h-schwegler-robin-box

Enhancing a development site for Invertebrates

Bee bricks

The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used.

Available in a choice of four colours: white grey, dark grey, yellow and red.



Specification

- * Material: Concrete
- * Origin: Cornwall, UK
- * Dimensions: W 215mm x D 105mm x H 65mm
- * Weight: 2.9kg
- * Colours: White grey, yellow, dark grey and red

Deadwood and other semi-natural provisions

Falling and standing deadwood provides habitat opportunities for a wide range of invertebrates; however, poor execution of enhancement often leads to reduced efficacy. Log piles will generally dry out too quickly or rot too fast depending on their location; it is therefore more effective to place large logs in full sun to allow slow rotting which is favourable for beetles. Some smaller logs in full sun will provide additional habitat for bees and wasps, whilst loose bunds with bare earth also provide abundant opportunities for these and other taxa.



Large, piled logs in shade will rot slowly providing abundant opportunities for beetles, and bunds constructed of sand/earth are valuable to beetles, bees, wasps and other species

Enhancing a development site for Hedgehog

Hedgehog Home

Specification:

Exterior quality 12mm resin bonded ply. The box remains untreated on the inside. Best situated in a quiet corner of the garden, and covered with leaves and other garden debris. Removable lid for cleaning purposes and reinforced corners, manufactured with surface sunk nails to resist rusting.



Nest box size: Height 22cm x Width 38cms x Length 47cm

Environmentally positive: Direct action to help hedgehog survival rates, encouraging biodiversity; FSC timber; Zero carbon footprint in use.

Hedgehog Highway

Hedgehog numbers have dramatically declined in recent years. Research suggests that this is partly because it is becoming harder for hedgehogs to move freely due to an increase in the number of solid walls and fences being erected around gardens. This reduces the available foraging area and so restricts the amount of food that they can eat as well as reducing the possibility of meeting a mate. Creating a hole in a garden wall or fence will allow local hedgehogs to pass through from garden to garden safely.

A hole measuring 13cm by 13cm is the right size for a hedgehog to pass through but too small for most pets. Once you have made your hole in the fence or wall, you can fix the Eco Hedgehog Hole Plate to the fence, ensuring that the hole does not get blocked or stretched. The plate has six screw holes, three along each side, which can be used to fix the plate to your fence or wall. Additional holes can be made in the plastic if required.

The Eco Hedgehog Hole Plate is made from 100% recycled plastic, which is mostly derived from plastic waste from farms across the UK. The plastic hedgehog hole is UV-stabilised so will not rot or degrade over time.



Specification:

- * Material: Low density Polyethylene board (100% recycled plastic)
- * Dimensions: Height 26cm x width 23cm
- * Entrance Hole: 13cm x 13cm
- * Country of Manufacture: England

