

Russell Road Extra Care Housing Site, Whalley Range, Manchester M16 8BT

ECOLOGICAL SURVEY AND ASSESSMENT

August 2024

ERAP (Consultant Ecologists) Ltd Reference: 2023-172

ERAP (Consultant Ecologists) Ltd
Building N2
Chorley Business and Technology Centre
East Terrace
Euxton Lane
Euxton
Chorley
PR7 6TE

Tel: 01772 750502

mail@erap.co.uk
www.erap.co.uk



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Document Control

Survey Type:	Surveyors ¹	Survey Date(s)
Phase 1 Habitat Survey	Brian Robinson B.Sc. (Hons) MCIEEM	17 th July 2024
Reporting	Personnel	Date
Author	Brian Robinson B.Sc. (Hons) MCIEEM Senior Ecologist	5 th August 2024
Signature(s)		
Checked	Rachel Brown B.Sc. (Hons)	9 th August 2024
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Bats		
Brian Robinson Natural England Class Survey Licence (bats, Level 2) Registration Number 2015-13161-CLS-CLS		

SUMMARY

Introduction and Scope

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of land at Russell Road, Whalley Range, Manchester M16 8BT. The assessment was requested in connection with proposals to develop the site to an extra care housing facility.
- ii. This report presents the results of a desktop study, data search and extended Phase 1 Habitat Survey carried out in July 2024, which includes a ground level bat assessment of the trees within the site. 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 hard standing with areas of colonising ruderal herbs. An area of unmanaged grassland is located near the site's centre, and ornamental shrubs and planted mature trees are located at the margins of the site.

Results of Survey and Assessment

- iv. The proposals will have no adverse direct or indirect effect on statutory or non-statutory designated sites for nature conservation.
- v. Only common and widespread plant species were found. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. No Priority Habitats or irreplaceable habitats are present. In terms of each habitat's importance in a geographical context, the mature trees and ornamental shrubs at the site boundaries are considered to be of 'site' importance as they support habitats of value to nesting birds and foraging birds and bats, and will contribute as wildlife links across the wider area. The grassland, vegetation colonising hard standing and hard standing areas are not considered to hold any importance on a geographical scale.
- vi. In accordance with the proposals plans the development will retain the trees and shrubs at the site boundaries; it is considered that the proposals are in accordance with the principles of the mitigation hierarchy.
- vii. Invasive species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) namely Rhododendron, Montbretia and Wall Cotoneaster were detected. It is an offence to cause the spread of these species in the wild. Guidance on the control and management of these species is described in the report (**Section 5.4**).
- viii. A single mammal hole has been detected at the western site boundary. It is considered likely, at this stage, that the hole is used by red fox, however it is considered that further surveys should be completed to confirm that the hole is not a badger sett. The scope of the further surveys required is presented at **Section 5.2**.
- ix. 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 are presented at **Section 5.4**. The proposals plan demonstrates that the habitats suitable for use by foraging and commuting bats will be retained and protected by the proposals.
- x. 14 trees are assessed to be 'PRF-I' in terms of their suitability for use by roosting bats. In accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)* (Collins, J. (ed), 2023) no further

survey is required to inform the assessment of impacts to roosting bats at the site, but Reasonable Avoidance Measures for the protection of bats should be observed during any works to the trees. In accordance with the proposals plans the trees will be retained by the proposed development; impacts to roosting bats as a consequence of the proposed development are reasonably discounted. A Reasonable Avoidance Measures Method Statement to be adopted at any works to the trees is provided at **Section 5.3** for completeness.

- xi. The proposals present an opportunity to enhance habitats within the site for roosting bats by the incorporation of bat boxes at the buildings and trees. Measures to enhance habitats for use by roosting bats are presented at **Section 5.5**.
- xii. Habitats within the site are suitable for use by nesting birds; precautionary measures for the protection of nesting birds are presented at **Section 5.3**. The proposals present an opportunity to create additional habitat for nesting species associated with urban and suburban landscapes. Measures to enhance habitats for use by nesting birds are presented at **Section 5.5**.
- xiii. The trees and shrubs at the site boundaries are suitable for use by foraging and sheltering hedgehog, a Priority Species associated with urban and suburban areas. The proposals will retain the suitable habitat within the site for hedgehog. Measures for the protection of hedgehog during works are presented at **Section 5.4**.
- xiv. No other protected species have been detected.

Recommendations

- xv. The recommendations in **Section 5.0** outline all the mandatory measures and additional actions to be applied to ensure compliance with wildlife legislation, the NPPF and best practice.
- xvi. 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

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

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Rowlinson Constructions Limited to carry out an ecological assessment of land at Russell Road, Whalley Range, Manchester M16 8BT (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SJ 82621 95180. 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 develop the site to extra care housing.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in July 2024 comprised:
- A desktop study and data search for known ecological information at the site and the local area;
 - An Extended Phase 1 Habitat Survey and assessment, and assessment of the habitats present at the site using the UK Habitats Classification;
 - 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*), bird species and reptiles;
 - A daytime bat walkover survey for bats, which has comprised a ground level tree assessment and assessment of the site's suitability for use by foraging and commuting 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 to inform the progression of the site through the planning process or prior to the commencement of any construction activities.

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. In this instance (for example) there are no ponds within an unobstructed radius of 500 metres from the site, and no water bodies or water courses within or adjacent to the site; there has been no requirement to consider great crested newt (*Triturus cristatus*), water vole (*Arvicola amphibius*) or otter (*Lutra lutra*) as part of this assessment

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

2.1.1 The following sources of information and ecological records were consulted:

- a. MAGiC Maps: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;
- b. Ancient Tree Inventory (Woodland Trust, 2023): An online database of ancient and veteran trees;
- c. Greater Manchester Local Record Centre (GMLRC); and
- d. Greater Manchester Biodiversity Action Plan (BAP).

2.2 Vegetation and Habitats

2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Brian Robinson on 17th July 2024. The weather was dry with sunny intervals, a light air (Beaufort scale 1) and an air temperature of 21°C.

2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area and is appended at **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 On site habitat mapping was assisted via use of GPS technology and QField on-site mapping software, using *Former Spire Hospital, Russell Road, Manchester: Topographical Survey Drg. No 02672/Topo* (Geomatic Surveys Ltd, 2021) and ESRI World Imagery as base plans.

2.2.4 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.

2.2.5 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.

2.2.6 Habitats within the site were assessed in accordance with *The UK Habitat Classification Version 2.0* (UKHab Ltd, 2023). The UK Habitat Classification, or 'UKHab' has been designed to function at two scales of minimum mappable unit (MMU): fine scale (25m² or 5 metres length) and large scale (400m² or 20 metres length). It has been considered for the purposes of this survey that the fine scale of 25m² or 5 metres length MMU is appropriate.

2.2.7 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).

- 2.2.8 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 **Figures 1 and 2**) and extended to accessible land within a radius of 50 metres from the site boundary. Private gardens / land were 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: advice for making planning decisions* (Natural England, 2022).
- 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

Daytime Bat Walkover Survey

Survey Personnel

- 2.3.5 The site was assessed for its suitability to support roosting bats by Brian Robinson, Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-13161-CLS-CLS. The surveyor's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013).

Ground Level Walkover Survey of the Trees

- 2.3.6 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.

- 2.3.7 Trees were assessed from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of the following features:
- 2.3.8 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.
- 2.3.9 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).
- 2.3.10 Trees have been assessed and described using the categories presented at Tables 4.2 and 6.2 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*, (Collins, J. (ed), 2023), as presented in **Table 2.1**.

Table 2.1: Definition of Terms and Suitability Categories Used in Tree Survey for Roosting Bats

Terms and Suitability Categories	Description
PRF	Potential Roost Feature
None	Either no PRFs in the tree(s) or highly unlikely to be any.
FAR	Further Assessment Required to establish if PRFs are present in the tree
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

- 2.3.11 The requirement for further presence / absence surveys at each tree was then considered.

Habitat Assessment for Commuting / Foraging Bats

- 2.3.12 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 (4th edn)* (Collins, J. (ed), 2023). Reference has been made to the categories, descriptions and examples presented in **Table 2.2**.

Table 2.2: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Potential Flight Paths and Foraging Habitats
None	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade / protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible ^a	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	Habitat that could be used by small numbers of bats as flight-paths 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 (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens.

Suitability	Potential Flight Paths and Foraging Habitats
	Habitat that is connected 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 that is likely to be used regularly by bats for flight-paths 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.
^a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).	

Bird Species

- 2.3.13 Bird species observed and heard during the survey were recorded.
- 2.3.14 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.

Reptile Species

- 2.3.15 The site and its surroundings were assessed in terms of their suitability for use by reptile species using the important characteristics for reptiles outlined in the draft document *Reptile Mitigation Guidelines* (Natural England, 2011), and the *Reptile Habitat Management Handbook* (Edgar, et al., 2010). These habitat characteristics are outlined in **Table 2.3**.

Table 2.3: Important Habitat Characteristics for Reptiles

1. Location (in relation to species range)	7. Connectivity to nearby 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

Other Wildlife

- 2.3.16 Evidence of other wildlife observed whilst on site, but for which specific surveys were not made, was recorded and has been included in this report where it is considered of relevance to the planning application. This includes Priority Species.
- 2.3.17 Habitats have been assessed for their suitability for Priority Species identified in the data search results where this is considered relevant to the application.

2.4 Survey and Reporting Limitations

- 2.4.1 The whole site was accessible and the survey was completed at a suitable time of year. No significant survey limitations were experienced.

- 2.4.2 All measurements within this report are approximate only, and have been either measured (using QField) or estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGiC Maps 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). Each habitat and individual trees have been assessed to determine whether they are ‘irreplaceable habitat’, defined in *National Planning Policy Framework* (Department for Levelling Up, Housing and Communities, 2023)² as ‘Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen’. The further detail presented in *The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024* (GOV.UK, 2023) draft document has also been referred to.
- 2.5.3 Government advice on wildlife, as set out in the NPPF 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 (Amendment) (EU Exit) Regulations 2019*, 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.

²Hereafter the NPPF

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site is not and does not form part of any statutory designated site for nature conservation.
- 3.1.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the overlapping Hollinwood Branch Canal SSSI and Local Nature Reserve, which are located 9.4 kilometres to the north-east of the site and are designated for being the best example of a mesotrophic standing water system in Greater Manchester and Merseyside. The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Natural England, 2024):
- a. Air Pollution: Livestock and poultry units with a floorspace greater than 500m², and slurry lagoons greater than 4000m².
 - b. Combustion: General combustion processes greater than 50 megawatts energy input. Includes 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

- 3.1.3 The site is not and does not form part of any non-statutory designated site for nature conservation, called 'Sites of Biological Importance' or 'SBIs' in Manchester. There are no SBIs within a 2m radius of the site.

Priority Habitats Inventory

- 3.1.4 The Priority Habitats Inventory³ was checked via MAGiC Maps. No Priority Habitats are identified at the site by the inventory.

Ancient Tree Inventory

- 3.1.5 No ancient or veteran trees are identified at the site by the inventory.

Protected and Notable Species

- 3.1.6 The data search results with GLMRC are pending and will be provided within an updated version of the report.

3.2 Vegetation and Habitats

General Description

- 3.2.1 The approximately 0.95 hectares site is located within an urban area of Manchester characterised by housing and gardens. The site supports hard standing with areas of colonising ruderal herbs. An area of

³ A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

unmanaged grassland is located near the site's centre, and ornamental shrubs and planted mature trees are located at the margins of the site.

- 3.2.2 The north-western, south-western and south-eastern site boundaries are characterised by ornamental shrubs, planted trees, walls and fencing, beyond which lies Whalley Road, Russell Road and Carlton Road respectively. The north-eastern site boundary is defined by a brick wall, beyond which lies buildings and gardens associated with St Luke's centre, a religious institution.
- 3.2.3 The site was formerly the location of a hospital building which, in accordance with Google Earth historical imagery, was demolished between 2019 and 2020.
- 3.2.4 The appended **Figure 2** can be referred to for all habitat descriptions. Photographs are appended in **Section 8.2**.

Hard Standing and Hard Standing with Colonising Ruderal Herbs

- 3.2.5 Refer to **Photos 1 to 3**. The majority of the site comprises concrete and asphalt hard standing with colonising ruderal herbs. An area of asphalt hard standing which is largely clear of ruderal herbs (a former car park) is located at the south-eastern end of the site.
- 3.2.6 The vegetation colonising the hard standing is characterised by occasional and locally frequent Bramble (*Rubus fruticosus* agg.) and Butterfly-bush (*Buddleja davidii*), occasional and very locally frequent Goat Willow (*Salix caprea*), Spear Thistle (*Cirsium vulgare*) and Canadian Goldenrod (*Solidago canadensis*) and very locally frequent Creeping Bent (*Agrostis stolonifera*), Common Bent (*Agrostis capillaris*), Rosebay Willowherb (*Chamerion angustifolium*), Petty Spurge (*Euphorbia peplus*), Red Fescue (*Festuca rubra*), and Atlantic Ivy (*Hedera hibernica*). A plant species list is appended at **Table 8.1**.
- 3.2.7 The vegetation is not typical of any NVC community, and is described by the UKHab as u1b6 other developed land with the secondary codes 81 ruderal or ephemeral, 82 vacant or derelict land and 518 neglected. The vegetation is typical of the Phase 1 Habitat type J1.3 Cultivated / disturbed land – ephemeral / short perennial. The hard standing area is described by the UKHab as u1b6 other developed land with the secondary code 518 neglected and is described by the Phase 1 Habitat type J4 Bare ground.

Ornamental Shrubs and Planted Mature Trees

- 3.2.8 Refer to **Photos 4 to 8**. The ornamental shrubs and planted mature trees are characterised by frequent Turkey Oak (*Quercus cerris*) and Atlantic Ivy, frequent and locally abundant Leyland Cypress (*X Cuprocyparis leylandii*), locally abundant Rhododendron (*Rhododendron ponticum*), Snowberry (*Symphoricarpos albus*) and Japanese Pieris (*Pieris japonica*), locally frequent Franchet's Cotoneaster (*Cotoneaster franchetii*), Garden Privet (*Ligustrum ovalifolium*), Thunberg's Barberry (*Berberis thunbergii*), Hornbeam (*Carpinus betulus*), Cherry Laurel (*Prunus laurocerasus*) and Horse-chestnut (*Aesculus hippocastanum*) and occasional / locally frequent Norway Maple (*Acer platanoides*). A plant species list is appended at **Table 8.2**.
- 3.2.9 The ornamental shrubs and planted trees are not typical of any NVC community and are described by the UKHab as u1 built up and urban areas with the secondary codes 203 mature tree, 523 non-native and 847 introduced shrub. The habitat conforms to the Phase 1 Habitat type J1.4 Introduced shrub (individual trees have no standard Phase 1 Habitat type).

Grassland

- 3.2.10 Refer to **Photo 9**. The unmanaged grassland at the centre of the site is characterised by constant and frequent Yorkshire-fog (*Holcus lanatus*) and Creeping Bent with Common Bent (*Agrostis capillaris*), Fox-and-cubs (*Pilosella aurantiaca*) and Red Fescue (*Festuca rubra*) and occasional Common Ragwort (*Senecio jacobaea*) and Dandelion (*Taraxacum officinale* agg.).
- 3.2.11 The grassland is not typical of any NVC community and is described by the UKHab as g4 modified grassland with the secondary codes 200 tree and 518 neglected. The grassland is best described by Phase 1 Habitat terminology as J1.2 Cultivated/disturbed land - amenity grassland although it is not a typical example of this due to lack of regular management.

Invasive Plant Species

- 3.2.12 Refer to **Figure 2**. Stands of Rhododendron, Montbretia (*Crocsmia pottsii* x *aurea* = *C. x crocosmiiiflora*) and Wall Cotoneaster (*Cotoneaster horizontalis*) were detected within the site. These species are listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended); it is an offence to spread or cause their spread in the wild. This is considered further at **Section 4.3**.

3.3 Animal Life

Badger

- 3.3.1 A single mammal hole was detected at the north-western site boundary (refer to **Photo 10**). The hole is of a suitable size to have been created by badger, however no field signs confirming the use of this hole by badger (or another mammal species) were detected. It is understood (via personal communication between the client and local residents to the site) that red fox (*Vulpes vulpes*) are known to be present within the local area.
- 3.3.2 The mammal hole and requirement for further survey is considered further at **Section 4.4**.

Bat Species

Trees

- 3.3.3 Tree references for the site are in accordance with *Russell Road Extra Care, Whalley Range: Tree Constraints Plan Dwg. No: UG_2410_ARB_TCP_00* (Urban Green, 2024). Note that '.1, .2' etc have been added to identify individual trees within a tree group. All tree references are presented at **Figure 2**, and an assessment of individual trees is appended at **Table 8.3**.
- 3.3.4 T4, T5, T7, T17, T20, T21, T22, T23, T27, G15.1, G15.2, G15.3 and G26.3 all support a dense cover of Ivy; no other features potentially suitable for use by roosting bats were detected at these trees, which are assessed to be 'PRF-I' in accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)* (Collins, J. (ed), 2023). Blind knot holes were also detected at tree G15.1 and 15.2; it was not considered that these features provided suitable crevices by access for bats. Lifted bark was noted at T14, a mature Horse-chestnut. This tree is also assessed to be PRF-I.
- 3.3.5 No further trees were observed to support any features suitable for use by roosting bats. The presence of features suitable for use by roosting bats at the trees is considered further at **Section 4.4**.

Habitat Assessment for Commuting and Foraging Bats

- 3.3.6 The tree lines at the site margins are suitable for and are likely to contribute to a wider foraging area for species associated with urban and suburban habitats such as common pipistrelle (*Pipistrellus pipistrellus*).
- 3.3.7 A diverse range of species and / or a large number of bats are considered unlikely at the site owing to the absence of habitats such as woodland or tree-lined watercourses within the site. Overall, taking into account the size of the site and quality of habitats present, the site is assessed to be of 'low' suitability for use by foraging and commuting bats.
- 3.3.8 Taking into the account the site's location within the wider landscape it is not considered that this is likely to provide a key commuting route between a roosting area and an area of high suitability for use by foraging bats.

Bird Species

- 3.3.9 Birds detected in the site in July 2024 are listed in **Table 3.1**.

Table 3.1: Bird species Detected on 17th July 2024.

Scientific Name	Common Name	BOCC Status ¹
<i>Corvus corone corone</i>	Carrion crow	Green
<i>Cyanistes caeruleus</i>	Blue tit	Green
<i>Erithacus rubecula</i>	Robin	Green
<i>Parus major</i>	Great tit	Green
<i>Passer domesticus</i>	House sparrow	Red
<i>Pica pica</i>	Magpie	Green
<i>Troglodytes troglodytes</i>	Wren	Amber
¹ BOCC: Birds of Conservation Concern (Stanbury, et al., 2021). Priority Species are presented in bold.		

- 3.3.10 The trees and ornamental shrubs are all suitable for use by nesting passerine (i.e. perching) species, including those detected within the site during the survey. This is considered further at **Section 4.4**.

Reptiles

- 3.3.11 The habitats within the site have until recently been occupied by a hospital building, and have (since 2019) been significantly disturbed through the demolition of that building. The site is not adjacent or linked to any areas of favourable habitat for reptile species, and there are no records of reptile for the site or the wider area. The presence of reptiles within the site is reasonably discounted.

Other Wildlife

- 3.3.12 The habitats within the site are suitable for use (as part of a wider territory) for foraging and sheltering hedgehog (*Erinaceus europaeus*), a Priority Species. Due to the site's small size it is not considered that the site is likely to provide core or important habitat for hedgehog, however. The suitability of the site for hedgehog is considered further at **Section 4.4**.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 In accordance with *Russell Road Extra Care Housing: Proposed Plans: ECH & SO Option 2 Drawing Number SK04 Revision B* (Triangle Architects, 2023), hereafter the 'proposals plans', it is proposed to develop the site to a five storey extra care housing facility with a four storey shared ownership building to its east. Importantly the proposals will retain the tree lines at the western, southern and eastern site boundaries.
- 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 is evaluated at **Section 4.3**, and protected and notable species are considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

- 4.2.1 It is considered that the proposed development will have no impact on any statutory or non-statutory designated sites present in the wider area.

4.3 Vegetation and Habitats

- 4.3.1 Only common and widespread plant species were found. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. No Priority Habitats or irreplaceable habitats are present.
- 4.3.2 In terms of each habitat's importance in a geographical context⁴, the mature trees and ornamental shrubs at the site boundaries are considered to be of 'site' importance as they support habitats of value to nesting birds and foraging birds and bats, and will contribute as wildlife links across the wider area. The grassland, vegetation colonising hard standing and hard standing areas are not considered to hold any importance on a geographical scale.
- 4.3.1 In accordance with the proposals plans the development will retain the trees and shrubs at the site boundaries; it is considered that the proposals are in accordance with the principles of the mitigation hierarchy⁵.
- 4.3.2 Recommendations relating to the retention and protection the trees and ornamental shrubs habitats and for any compensatory planting required as a consequence of the proposed development are presented at **Section 5.5**.
- 4.3.3 Rhododendron, Montbretia and Wall Cotoneaster, all invasive species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), have been detected within the site. It is considered that

⁴ 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 'A sequential process should be adopted to avoid, mitigate and compensate negative ecological impacts and effects. This is often referred to as the 'mitigation hierarchy' (CIEEM, 2018)

the proposals present an opportunity for the eradication of these species as part of the proposed development. Further guidance is presented at **Section 5.4** of this report.

4.4 Protected Species and Other Wildlife

- 4.4.1 A single mammal hole has been detected at the western site boundary. It is considered likely, at this stage, that the hole is used by red fox, however it is considered that further surveys should be completed to confirm that the hole is not a badger sett. The scope of the further surveys required is presented at **Section 5.2**.
- 4.4.2 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 are presented at **Section 5.3**. The proposals plan demonstrates that the habitats suitable for use by foraging and commuting bats will be retained and protected by the proposals.
- 4.4.3 T4, T5, T7, T14, T17, T20, T21, T22, T23, T27, G15.1, G15.2, G15.3 and G26.3 are all assessed to be 'PRF-I' in terms of their suitability for use by roosting bats. In accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)* (Collins, J. (ed), 2023) no further survey is required to inform the assessment of impacts to roosting bats at the site, but Reasonable Avoidance Measures for the protection of bats should be observed during any works to the trees. In accordance with the proposals plans the trees will be retained by the proposed development; impacts to roosting bats as a consequence of the proposed development are reasonably discounted. A Reasonable Avoidance Measures Method Statement to be adopted at any works to the trees is provided at **Section 5.3** for completeness.
- 4.4.4 The proposals present an opportunity to enhance habitats within the site for roosting bats by the incorporation of bat boxes at the buildings and trees. Measures to enhance habitats for use by roosting bats are presented at **Section 5.5**.
- 4.4.5 The trees, shrubs and scrub provide suitable foraging and nesting habitat for the species of birds detected within the site. The proposals will retain the habitats suitable for use by nesting birds; precautionary measures for the protection of nesting birds are presented at **Section 5.3**.
- 4.4.6 The proposals present an opportunity to create additional habitat for nesting species associated with urban and suburban landscapes, including house sparrow (a Priority Species) and swift (*Apus apus*) a red listed species in accordance with the BOCC. Measures to enhance habitats for use by nesting birds as a consequence of the proposals are presented at **Section 5.5**.
- 4.4.7 The trees and shrubs at the site boundaries are suitable for use by foraging and sheltering hedgehog, a Priority Species associated with urban and suburban areas. The site is too small to provide core or important habitat for this species however. The proposals will retain the suitable habitat within the site for hedgehog, however the proposals have the potential to harm individual hedgehog during the construction phase. Measures for the protection of hedgehog during works are presented at **Section 5.3**.

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 NPPF, local planning policy and best practice.

5.1.2 In accordance with Chapter 15, paragraph 186(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.

5.2 Further Surveys of Mammal Hole

5.2.1 It is recommended that a trail camera is located at the mammal hole at the western end of the site and left for at least 2 weeks to determine whether or not the hole is in current use by red fox. If the survey detects that the hole may be used by badger, or other evidence is gathered which indicates the hole may be a badger sett, then additional surveys will be required and a Method Statement and Natural England licence may be required to complete any works in the vicinity of the hole.

5.2.2 If the hole is confirmed as a mammal hole then a Method Statement for the protection of red fox during works will be provided to inform the construction phase of the proposed development.

5.3 Protection of Existing Vegetation and Recommendations in Relation to Site Layout

Recommendations in Relation to Site Layout

5.3.1 It is recommended that, where possible, the trees and shrubs at the site boundaries are retained by the proposed development and enhancements sought via appropriate management where this is feasible.

5.3.2 It is acknowledged that habitat will be lost as a consequence of the proposals. It is recommended that the proposal incorporate areas of wildflower grassland to compensate for the loss of modified grassland to facilitate the development.

Protection of Trees and Shrubs

5.3.3 During the construction phase, temporary protective demarcation fencing will be used to protect the trees, shrubs and hedgerows 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.

- 5.3.4 The fencing will be in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction: Recommendations (BSI, 2012).

Bats

Lighting

- 5.3.5 Paragraph 191(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.'

- 5.3.6 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.
- 5.3.7 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 the retained trees and shrubs and any landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.
- 5.3.8 The lighting scheme will be designed with reference to current guidance, namely:
- Guidance Note 08/23: Bats and Artificial Lighting at Night* (Institution of Lighting Professionals & Bat Conservation Trust, 2023); and
 - Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

Reasonable Avoidance Measures (RAMs) for the Protection of Bats During Any Works to Trees

- 5.3.9 It is recommended that the following measures are adopted if the proposed development requires works to any of the trees within the site. In accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)* (Collins, J. (ed), 2023) it is essential that the following actions are applied during the felling of the trees listed below:
- Works must be completed under the supervision of a licensed bat surveyor. The licensed bat surveyor will be present to supervise the works;
 - The optimal time for tree removal is between September and late February inclusive;
 - Removal of Ivy and subsequent investigation to determine if any further features suitable for use by roosting bats are present;
 - Careful section-felling of the trees. The sectioning must avoid cutting through or close to any cavities; this is likely to involve climbing the tree;
 - Cut sections will be lowered to the ground with the use of ropes;
 - Once on the ground the cavity will be inspected by the licensed bat surveyor and guidance issued;
 - All felled sections will be left to lie on the ground for 24 hours before removing Ivy and snedding (removing side branches); and

- h. If at any time during the works a bat is discovered or suspected all contractors must withdraw from the area and ERAP (Consultant Ecologists) Ltd (01772 750502) or the Bat Conservation Trust must be contacted for further guidance.

Protection of Nesting Birds

- 5.3.10 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. 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.
- 5.3.11 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.

RAMs for the Protection of Hedgehog

- 5.3.12 It is recommended that the following RAMs are adopted during the construction phase of the proposed development for the protection of wildlife, including hedgehog:
 - a. All site personnel must be made aware of this RAMs;
 - b. Prior to any soil strip, vegetation will be strimmed to a height of no less than 0.15 metre and all arising removed;
 - c. During construction, any holes, trenches or other pits which hedgehog (or other wildlife) could fall into will be covered overnight, or have sloped banks or ramps to allow escape;
 - d. In the unlikely event of the discovery of a hedgehog whilst any site clearance or construction operations are in progress then the animal should be placed carefully in a clean bucket and moved off site. Gloves must be worn when handling any wildlife.

5.4 Invasive Plant Species

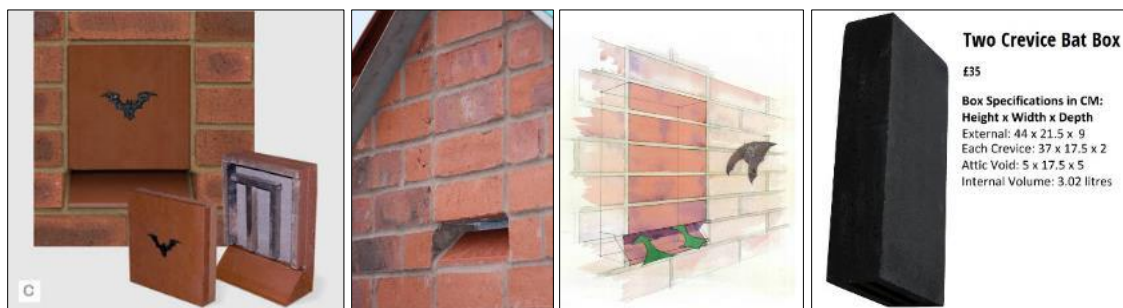
- 5.4.1 It is an offence under the *Wildlife and Countryside Act 1981* (as amended) to cause the spread of Rhododendron, Montbretia and Wall Cotoneaster in the wild. It is recommended that the plants are grubbed out by the roots during site clearance and disposed of either by burying on site or removal to a suitable tip.

5.5 Ecological Enhancements

Enhancing Habitats for Roosting Bats

- 5.5.1 It is recommended that the development incorporates the installation of bat access panels at the new buildings.
- 5.5.2 The bat access panels should be sited at least 4 metres above ground level, ideally facing or close to areas of landscape planting or existing linear features. The access panels should not be positioned over windows or doorways where bat droppings may become a nuisance. Once the development layout has been finalised, an ecologist should advise on appropriate positions for the bat access panels. Suitable bat access

panels are available from NHBS Ecology (www.nhbs.com), Wild Care (www.wildcare.co.uk) and / or Greenwood's Ecohabitats (www.greenwoodsecohabitats.co.uk) and are presented at **Insert 1**.



Insert 1: Examples of integrated bat access panels and an externally mounted box⁶

5.5.3 It is recommended that bat boxes are erected onto suitable retained mature trees within the site. An ecologist will advise on the siting of the bat boxes whilst on site.

5.5.4 Bat boxes should be installed to the following guidelines (Bat Conservation Trust, 2024)

- a. At least 4 metres above the ground (where safe installation is possible);
- b. Sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west). Ideally several bat boxes will be installed to provide a variety of different thermal options for bats. Grouping a number of boxes each with a different aspect can achieve this; while a number of boxes is preferable to one, a single box is still viable and may be used by roosting bats;
- c. Located close to unlit linear features, such as lines of trees or hedgerows; and
- d. Installed where the bat box entrance is not cluttered or impeded by branches, or accessible to predators (such as cats) by large branches underneath them.

5.5.5 Suitable bat boxes are the Schwegler 1FF, Greenwood Ecohabitat's single or double cavity boxes and Schwegler 1FD, see **Insert 2**.



Insert 2: Schwegler 1FF, Greenwood Ecohabitat's single cavity and Schwegler 1FD bat boxes

⁶ Left to right: IBstock Enclosed Bat Box 'c' (left); Habibat Bat Access Panels (centre left and centre right) and Greenwood's Ecohabitat's two crevice bat box (right). Products with a brick face are illustrated, however the Habibat bat access panels can be supplied unfaced to enable the addition of matching material.

Enhancing Habitats for Nesting Birds

House Sparrow

- 5.5.6 House sparrows are associated with suburban areas. Monitoring suggests a severe decline in the UK house sparrow population, estimated as dropping by 71 per cent between 1977 and 2008 with large falls in both rural and urban populations (RSPB, 2023).
- 5.5.7 The installation of house sparrow terrace nest boxes is recommended at the proposed new buildings. The boxes will not be positioned over windows or doorways where droppings may become a nuisance. 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.
- 5.5.8 Such bird boxes are available from the NHBS (www.nhbs.com) or Wild Care (www.wildcare.co.uk). ERAP (Consultant Ecologists) Ltd will advise on the siting of bird boxes.
- 5.5.9 An example of a suitable house sparrow bird box is given below at **Insert 3**.



Insert 3: Schwegler 1SP House Sparrow Nesting Terrace

Small Bird Boxes

- 5.5.10 Bird boxes suitable for use by a variety of small birds typically associated with garden habitats should be installed within the site. 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. The boxes should be at least 2 metres from ground level.
- 5.5.11 Long-lasting boxes such as those presented at **Insert 4** will be used. The boxes are available from www.NHBS.com and / or Wild Care (www.wildcare.co.uk).



Insert 4: Vivara Pro 28mm Seville Woodstone Box and Schwegler 1N

suitable for a variety of garden birds.

Swift

- 5.5.12 The swift (*Apus apus*) has recently been added to *The Birds of Conservation Concern* Red list (Stanbury, et al., 2021) owing to the recorded recent declines and its identified status as a high conservation priority.
- 5.5.13 The construction of the residential properties provides an opportunity for the installation of additional nesting opportunities for swift to assist their conservation. Suitable swift nest boxes are illustrated at **Insert 5**.



Insert 5: Examples of swift nest boxes⁷

Landscape Planting

- 5.5.14 It is recommended that the landscape planting within the site is composed from native species and species known to be of value for the attraction of wildlife.
- 5.5.15 It is recommended that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting. Suitable species are presented in **Table 5.1**.

Table 5.1: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
<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>	Guelder Rose

- 5.5.16 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.

⁷ From left to right No. 17A Schwegler Swift Nest Box (Triple Cavity) as installation (centre), Manthorpe Swift Nesting Box (right) and Ibstock Eco-habitat for Swift (right), all available from www.NHBS.com and / or Wild Care (www.wildcare.co.uk).

- 5.5.17 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.
- 5.5.18 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.
- 5.5.19 Other appropriate plants to include within the landscaping scheme include night-scented flowers which will attract moth species and bats; a list of suggested species is presented at **Table 5.2**.

Table 5.2: Recommended Plants for Use in Gardens to Attract Bats⁸

Flowers for Borders	
Aubretia species (<i>Aubretia</i> sp.)	Michaelmas Daisy (<i>Aster</i> sp.)
Candytuft (<i>Iberis sempervirens</i>)	Night-scented Stock (<i>Matthiola longipetala</i>)
Cherry pie (<i>Heliotropium arborescens</i>)	Oxeye Daisy (<i>Leucanthemum vulgare</i>)
Corncockle (<i>Agrostemma githago</i>)	Fiddleneck (<i>Phacelia tanacetifolia</i>)
Cornflower (<i>Centaurea cyanus</i>)	Poached Egg Plant (<i>Limnanthes douglasii</i>)
Corn Marigold (<i>Glebionis segetum</i>)	Primrose sp. (<i>Primula</i> sp.)
Corn Poppy (<i>Papaver rhoeas</i>)	Red Campion (<i>Silene dioica</i>)
Coneflower species (<i>Echinacea</i> sp.)	Common Valerian (<i>Valeriana officinalis</i>)
Bluebell (<i>Hyacinthoides non-scripta</i>)	Scabious species (<i>Scabiosa</i> sp.)
Evening primrose (<i>Oenothera biennis</i>)	St John's Wort species (<i>Hypericum</i> sp.)
Honesty (<i>Lunaria annua</i>)	Sweet William (<i>Dianthus barbatus</i>)
Ice plant 'Pink lady' (<i>Delosperma cooperi</i>)	Tobacco Plant species (<i>Nicotiana</i> sp.)
Knapweed species (<i>Centaurea</i> sp.)	Vervain species (<i>Verbena</i> sp.)
Mallow species (<i>Malva</i> sp.)	Wallflower species (<i>Erysimum</i> sp.)
Mexican aster (<i>Cosmos bipinnatus</i>)	
Herbs	
Wild Angelica (<i>Angelica sylvestris</i>)	Hyssop (<i>Hyssopus officinalis</i>)
Bergamot (<i>Monarda didyma</i>)	Lavender species (<i>Lavandula</i> sp.)
Borage (<i>Borago officinalis</i>)	Lemon Balm (<i>Melissa officinalis</i>)
Coriander (<i>Coriandrum sativum</i>)	Marjoram (<i>Origanum majorana</i>)
English Marigold (<i>Calendula officinalis</i>)	Rosemary (<i>Rosmarinus officinalis</i>)
Fennel (<i>Foeniculum vulgare</i>)	Sweet Cicely (<i>Myrrhis odorata</i>)
Feverfew (<i>Tanacetum parthenium</i>)	Thyme species (<i>Thymus</i> sp.)

⁸ Extracted from *Encouraging bats, A guide for bat-friendly gardening and living* (Bat Conservation Trust, 2016).

6.0 CONCLUSION

- 6.1 This ecological assessment has demonstrated that the proposed development at the site is feasible and acceptable in accordance with ecological considerations and the NPPF. 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.
- 6.2 Measures to conserve the habitat connectivity through the site are entirely feasible.
- 6.3 Development at the site will provide an opportunity to secure ecological enhancement for fauna typically associated with urban areas such as breeding birds and roosting bats.

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8.0 APPENDIX: TABLES, PHOTOGRAPHS AND FIGURES

8.1 Plant Species Lists

Table 8.1: Plant Species List for Vegetation Colonising Hard Standing

Scientific Name	Common Name	DAFOR ¹	% Cover
Woody Species			
<i>Acer pseudoplatanus</i>	Sycamore	O	<1%
<i>Betula pendula</i>	Silver Birch	O	<1%
<i>Buddleja davidii</i>	Butterfly-bush	O/LF	5%
<i>Cotoneaster franchetii</i>	Franchet's Cotoneaster	VLF	<1%
<i>Fagus sylvatica</i>	Beech	VLF	<1%
<i>Fraxinus excelsior</i>	Ash	R	<1%
<i>Ilex aquifolium</i>	Holly	R	<1%
<i>Lonicera nitida</i>	Wilson's Honeysuckle	VLF	<1%
<i>Quercus cerris</i>	Turkey Oak	VLF	<1%
<i>Quercus robur</i>	Pedunculate Oak	R	<1%
<i>Rosa canina</i>	Dog-rose	R	<1%
<i>Salix caprea</i>	Goat Willow	O/VLF	1%
<i>Symphoricarpos albus</i>	Snowberry	VLF	<1%
Herbaceous Species			
<i>Acanthus spinosus</i>	Spiny Bear's-breech	R	<1%
<i>Agrostis capillaris</i>	Common Bent	VLF	<1%
<i>Agrostis stolonifera</i>	Creeping Bent	VLF	<1%
<i>Antirrhinum majus</i>	Snapdragon	R	<1%
<i>Aster novi-belgii</i> agg.	Michaelmas-daisy	R	<1%
<i>Blackstonia perfoliata</i>	Yellow-wort	R	<1%
<i>Centaurea nigra</i>	Common Knapweed	R	<1%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	VLF	<1%
<i>Cirsium vulgare</i>	Spear Thistle	O/VLF	1%
<i>Conyza canadensis</i>	Canadian Fleabane	O	<1%
<i>Cymbalaria muralis</i>	Ivy-leaved Toadflax	R	<1%
<i>Digitalis purpurea</i>	Foxglove	R	<1%
<i>Dryopteris dilatata</i>	Broad Buckler-fern	R	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	O	1%
<i>Epilobium montanum</i>	Broad-leaved Willowherb	O	1%
<i>Euphorbia peplus</i>	Petty Spurge	VLF	<1%
<i>Festuca rubra</i>	Red Fescue	VLF	<1%
<i>Geranium endressii</i>	French Crane's-bill	VLF	<1%
<i>Geranium molle</i>	Dove's-foot Crane's-bill	R	<1%
<i>Geranium robertianum</i>	Herb-Robert	O	<1%
<i>Geum urbanum</i>	Wood Avens	O	<1%
<i>Hedera hibernica</i>	Atlantic Ivy	VLF	1%
<i>Holcus lanatus</i>	Yorkshire-fog	O	1%
<i>Hypochaeris radicata</i>	Cat's-ear	R	<1%
<i>Juncus effusus</i>	Soft-rush	R	<1%
<i>Lysimachia vulgaris</i>	Yellow Loosestrife	VLF	<1%
<i>Mycelis muralis</i>	Wall Lettuce	O	<1%
<i>Pilosella aurantiaca</i>	Fox-and-cubs	O	<1%
<i>Prunella vulgaris</i>	Selfheal	R	<1%
<i>Rubus fruticosus</i> agg.	Bramble	O/LF	1%

Scientific Name	Common Name	DAFOR ¹	% Cover
<i>Santolina chamaecyparissus</i>	Lavender-cotton	R	<1%
<i>Senecio jacobaea</i>	Common Ragwort	O	1%
<i>Solidago canadensis</i>	Canadian Goldenrod	O/VLF	<1%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	O	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	R	<1%
<i>Trifolium repens</i>	White Clover	R	<1%
<i>Tritelia laxa</i>	Triplet-lily	R	<1%
<i>Tussilago farfara</i>	Colt's-foot	R	<1%
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: Plant Species List for Ornamental Shrubs and Trees

Scientific Name	Common Name	DAFOR ¹	% Cover
Woody Species			
<i>Acer platanoides</i>	Norway Maple	O/LF	10%
<i>Acer pseudoplatanus</i>	Sycamore	R	<1%
<i>Aesculus hippocastanum</i>	Horse-chestnut	LF	5%
<i>Aucuba japonica</i>	Spotted-laurel	VLF	5%
<i>Berberis thunbergii</i>	Thunberg's Barberry	LF	<1%
<i>Carpinus betulus</i>	Hornbeam	LF	5%
<i>Cornus sanguinea</i>	Dogwood	VLF	<1%
<i>Cotoneaster franchetii</i>	Franchet's Cotoneaster	LF	5%
<i>Fagus sylvatica</i>	Beech	R	<1%
<i>Hypericum calycinum</i>	Rose-of-Sharon	VLA	1%
<i>Ilex aquifolium</i>	Holly	VLF	5%
<i>Ligustrum ovalifolium</i>	Garden Privet	LF	5%
<i>Lonicera nitida</i>	Wilson's Honeysuckle	VLF	5%
<i>Mahonia aquifolium</i>	Oregon-grape	R	<1%
<i>Pieris japonica</i>	Japanese Pieris	LA	10%
<i>Prunus laurocerasus</i>	Cherry Laurel	LF	5%
<i>Prunus</i> sp.	Cherry species	O	<1%
<i>Quercus cerris</i>	Turkey Oak	F	5%
<i>Quercus robur</i>	Pedunculate Oak	R	<1%
<i>Rhododendron ponticum</i>	Rhododendron	LA	5%
<i>Rosa canina</i>	Dog-rose	O	<1%
<i>Symphoricarpos albus</i>	Snowberry	LA	10%
<i>Tilia</i> sp.	Lime species	VLF	<1%
<i>X Cuprocyparis leylandii</i>	Leyland Cypress	F/LA	30%
Herbaceous Species			
<i>Agrostis stolonifera</i>	Creeping Bent	R	<1%
<i>Galium aparine</i>	Cleavers	R	<1%
<i>Hedera hibernica</i>	Atlantic Ivy	F	10%
<i>Stachys byzantina</i>	Lamb's-ear	O	<1%
¹ Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species			

Table 8.3: Ground Level Tree Assessment

Tree Reference	Description of Tree and Features	Category
G1	Young shrubs; no features suitable for use by roosting bats	None
T2	No features suitable for use by roosting bats noted	None
G3	Young shrubs; no features suitable for use by roosting bats	None
T4	Dense Ivy; no further features detected	PRF-I
T5	Dense Ivy; no further features detected	PRF-I
G6	Young Lawson's Cypress; no features suitable for use by roosting bats	None
T7	Dense Ivy; no further features detected	PRF-I
T8	No features suitable for use by roosting bats noted	None
G9	Lawson's Cypress; no features suitable for use by roosting bats	None
G10	No features suitable for use by roosting bats noted	None
T11	No features suitable for use by roosting bats noted	None
G12.1	No features suitable for use by roosting bats noted	None
G12.2	No features suitable for use by roosting bats noted	None
G12.3	No features suitable for use by roosting bats noted	None
T13	No features suitable for use by roosting bats noted	None
T14	Lifted bark; no further features detected	PRF-I
G15.1	Dense Ivy and a knot hole at 10m on southern face (appears blind)	PRF-I
G15.2	Dense Ivy and a knot hole at 10m on southern face (appears blind)	PRF-I
G15.3	Dense Ivy; no further features detected	PRF-I
G16.1	No features suitable for use by roosting bats noted	None
G16.2	No features suitable for use by roosting bats noted	None
T17	Dense Ivy; no further features detected	PRF-I
T18	No features suitable for use by roosting bats noted	None
G19	Young Lawson's Cypress; no features suitable for use by roosting bats	None
T20	Dense Ivy; no further features detected	PRF-I
T21	Dense Ivy; no further features detected	PRF-I
T22	Dense Ivy; no further features detected	PRF-I
T23	Dense Ivy; no further features detected	PRF-I
T24	No features suitable for use by roosting bats noted	None
G25.1	No features suitable for use by roosting bats noted	None
G25.2	No features suitable for use by roosting bats noted	None
G25.3	No features suitable for use by roosting bats noted	None
G26.1	No features suitable for use by roosting bats noted	None
G26.2	No features suitable for use by roosting bats noted	None
G26.3	Dense Ivy; no further features detected	PRF-I
T27	Dense Ivy; no further features detected	PRF-I
T28	No features suitable for use by roosting bats noted	None
G29	Young shrubs; no features suitable for use by roosting bats	None
T30	No features suitable for use by roosting bats noted	None

8.2 Photographs



Photo 1: Hard standing with colonising ruderal herbs



Photo 2: Hard standing with colonising ruderal herbs



Photo 3: Hard standing without colonising ruderal herbs, at the south-eastern end of the site



Photo 4: Ornamental shrubs and trees at the site boundary



Photo 5: Ornamental shrubs and trees at the site boundary

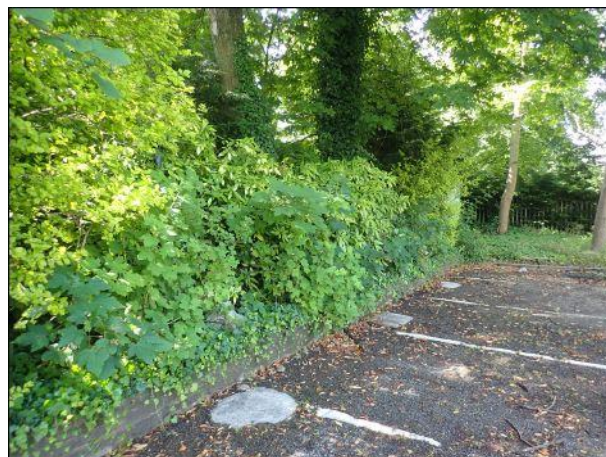


Photo 6: Ornamental shrubs and trees at the site boundary



Photo 7: Ornamental shrubs and trees at the site boundary



Photo 8: Ornamental shrubs and trees at the site boundary



Photo 9: Grassland at the centre of the site



Photo 10: Mammal burrow at north-western end of the site

8.3 Figures

Figure 1: Aerial Image of the Site and its Surroundings

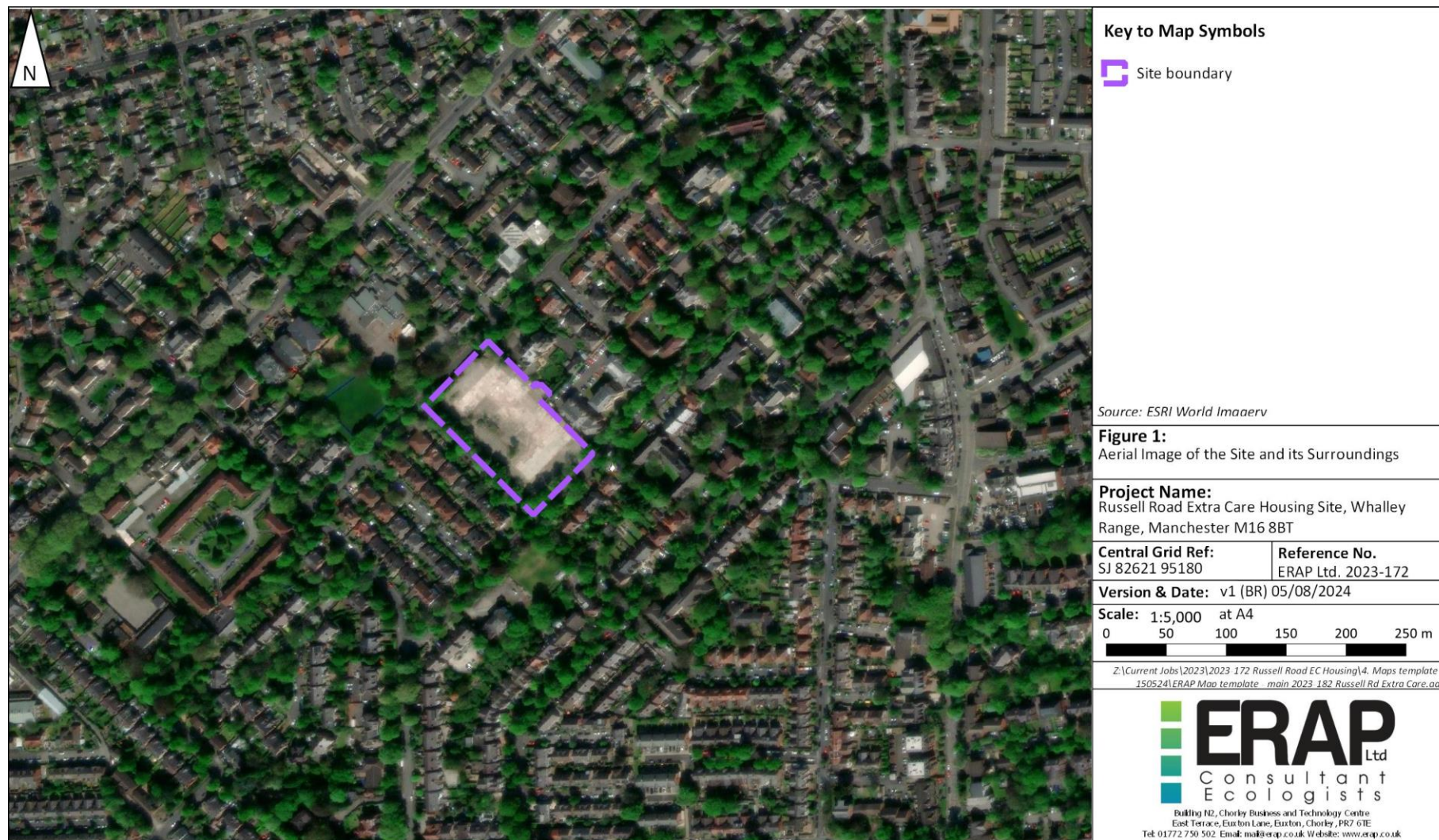


Figure 2: Phase 1 Habitat and Vegetation Map

