

Land at Parkfield House, Manchester Old Road, Middleton

**Updated Ecological Survey and
Assessment (Including a Licensed Bat
Survey)**

March 2023

Parkfield House, Middleton M24 4EB

UPDATED ECOLOGICAL SURVEY AND ASSESSMENT (Including a Licensed Bat Survey)

March 2023

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Document Control

Survey Type:	Surveyors ¹	Survey Date(s)
Updated Phase 1 Habitat and Daylight Bat Survey	Brian Robinson B.Sc. (Hons) MCIEEM and Rachel Platt B.Sc. (Hons) M.Sc.	26 th January 2023
Reporting	Personnel	Date
Author	Brian Robinson B.Sc. (Hons) MCIEEM Senior Ecologist	6 th February 2023
Signature(s)		
Checked	Rachel Brown B.Sc. (Hons)	7 th February 2023
Revised and issued	Brian Robinson B.Sc. (Hons) MCIEEM Senior Ecologist	8 th February 2023
Report issued to	Muller Property Group	
Version Number	1	
¹ Licence reference number		
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 Parkfield House, Middleton M24 4EB. The updated assessment was requested in connection with proposals to redevelop the site to residential dwellings.
- ii. This report presents the results of an updated desktop study and data search, extended Phase 1 Habitat Survey and a licensed bat survey carried out in January 2023. 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. This survey updates those completed at the site by ERAP (Consultant Ecologists) Ltd in September 2021.
- iv. The site comprises a disused former office building (Building 1), an electricity substation (Building 2), areas of unmanaged former amenity grassland, tree lines and ornamental planting and hard standing with locally frequent colonising ruderal herbs.

Results of Survey and Assessment

- v. The proposals will have no adverse direct or indirect effect on statutory or non-statutory designated sites for nature conservation.
- vi. The site remains as described in 2021. 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 are present within the site. The tree lines are assessed to be of 'local' value (in terms of their geographical context) as they contribute to the diversity of habitats within the site and its surroundings and provide suitable habitat for species such as foraging and nesting birds and foraging and commuting bats. Recommendations for the retention and protection of the tree lines (where feasible) are presented at **Section 5.2**.
- vii. Entire-leaved Cotoneaster, Rhododendron and Indian Balsam, invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), were detected within the site. 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 at **Section 5.3**.
- viii. Both buildings are assessed to be of 'negligible' suitability for use by roosting bats. No further surveys are required to determine the presence or absence of roosting bats at the buildings within the site. Trees 1 and 2 are assessed to be of 'low' suitability for use by roosting bats; recommendations relating to both trees are presented at **Section 5.4**. The trees and both buildings are suitable for use by nesting birds; all wild birds are protected whilst they are nesting. Measures for the protection of nesting birds are presented at **Section 5.5** of this report. No other protected species have been detected.
- ix. No other protected species have been detected.

Recommendations

- x. The recommendations in **Section 5.0** outline all the mandatory measures and additional actions to be applied to ensure compliance with wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.
- xi. The proposals will secure an opportunity to implement beneficial measures such as habitat management and 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

- xii. 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 residential development.

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Muller Property Group to carry out an updated ecological assessment of Parkfield House, Middleton M24 4EB (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of 1.11 hectares the site is SD 86268 05569. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).
- 1.1.2 The updated assessment was requested in connection with a planning application to demolish Building 1 and redevelop the site to a residential care home and residential dwellings with associated gardens, access and car parking demolish the buildings and redevelop the site to residential dwellings and a care home facility.
- 1.1.3 This assessment updates *2021-215 Parkfield House, Middleton M24 4B: Ecological Survey and Assessment* (ERAP (Consultant Ecologists) Ltd, 2021), hereafter the '2021 report'. Where relevant results from the 2021 report are presented within this report for ease of reference.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in January 2023 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;
 - 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*), barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), bird species, invertebrates and reptiles;
 - A licensed daylight bat survey of the buildings and trees;
 - 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 water bodies or water courses within or adjacent to the site; there has been no requirement to consider 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. Greater Manchester Local Record Centre (GMLRC);
- c. Greater Manchester Biodiversity Action Plan (BAP); and
- d. The 2021 report.

2.2 Vegetation and Habitats

2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Brian Robinson and Rachel Platt on 26th January 2023. The weather was dry and overcast, with a light air (Beaufort scale 1) and an air temperature of 7°C.

2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area at a scale of 1:1000 (refer to **Figure 2**). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.

2.2.3 On site habitat mapping was assisted via use of GPS technology and QField on-site mapping software, using *Parkfield House, Middleton: Topography and Drainage Report (Rev A)* (40Seven, 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 Habitats Classification / UKHab (Butcher, et al., 2020). The UKHab has been designed to function at two scales: 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 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 **Figure 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: surveys and mitigation for development projects* (Natural England, 2015).
- 2.3.3 The following signs of badger activity were searched for:
- Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
 - Large spoil heaps outside sett entrances;
 - Bedding outside sett entrances;
 - Badger footprints;
 - Badger paths;
 - Latrines;
 - Badger hairs on fences or bushes;
 - Scratching posts; and
 - Signs of digging for food.
- 2.3.4 Habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat Species

Daylight Survey

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).

Buildings

- 2.3.6 The surveys were carried out in accordance with standard methodology including the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), the *Bat Workers' Manual 3rd Edition* (Mitchell-Jones & Mcleish, 2004) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016).
- 2.3.7 An inspection of the external surfaces, walls and roofs of the buildings was carried out to find potential bat roosting habitat or accesses into internal areas where roosts may be present. Searches for evidence of bat presence in the form of droppings, urine stains, feeding signs, grease marks and other evidence were also carried out.
- 2.3.8 The internal survey involved an examination of the accessible internal areas (including roof voids) to find roosting bats or evidence of past use of the buildings by bats such as droppings and prey remains.
- 2.3.9 A list of equipment used is detailed at **Table 2.1**, below:

Table 2.1: Survey Equipment used during Daylight Bat Survey

Ladders
LED Lenser P14 torch
Panasonic DMC- FT1 digital camera
8x20 binoculars
Ridgid Micro Inspection Camera Borescope CA-100

- 2.3.10 The suitability of both buildings has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016), taking into account any presence of gaps suitable for access by bats, features suitable for use by roosting bats within the building (including crevice dwelling species and species which can roost in the open in roof voids), and the suitability of the surrounding habitats for use by foraging and commuting bats.

Trees

- 2.3.11 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.
- 2.3.12 Trees were assessed from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of the following features:

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

- 2.3.13 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).

Habitat Assessment for Commuting / Foraging Bats

- 2.3.14 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented at **Table 2.2**, below.

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

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

Bird Species

- 2.3.15 Bird species observed and heard during the survey were recorded.
- 2.3.16 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.
- 2.3.17 During the internal inspection on 26th January 2023 all buildings were searched in accordance with *The Barn Owl Conservation Handbook* (Barn Owl Trust, 2012) and *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment. Developing Best Practice in Survey and Reporting* (Shawyer, 2011). Field signs including pellets, faecal splashes and feathers, which may indicate use by roosting or nesting barn owl, were searched for.

Great Crested Newt and Amphibians

- 2.3.18 In accordance with *Great crested newts: advice for local planning authorities* (Natural England, 2020) all ponds within an unobstructed 500 metres of a site should be considered for their suitability to support breeding great crested newts. The potential of the proposed development to impact upon any great crested newt population(s) whose breeding ponds are within 500 metres must be considered.
- 2.3.19 The search for ponds in the wider area up to a distance of 500 metres from the site boundary revealed the presence of four ponds, all of which are located within North Manchester Golf Course and are to the north of the site, as detailed in **Table 2.3**, below.

Table 2.3: Ponds Within an Unobstructed 500 metres of the Site

Pond Reference	OS Grid Reference	Distance from Site Boundary
1	SD 85911 05715	300 metres to the north-west
2	SD 85808 05671	385 metres to the north-west
3	SD 85923 05901	410 metres to the north-west
4	SD 85701 05676	490 metres to the north-west

Consideration of Requirement for Further Survey

- 2.3.20 To inform the requirement for further surveys the Natural England Rapid Risk Assessment tool from GCN *Method Statement WML-A14-2 (Version April 2020)* (Natural England, 2020) has been completed. The results are presented below at **Table 2.4**.
- 2.3.21 The tool has been completed based on the distances of the ponds from the site and the size of the development site (1.11 hectares, or 'ha'). The rapid risk assessment tool assumes that great crested newt are present.

Table 2.4: Rapid Risk Assessment Result

Component	Likely Effect	Notional Offence Probability Score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.04
Individual great crested newts	No effect	0
	Maximum:	0.04
Rapid risk assessment result:	Green: Offence Highly Unlikely	

- 2.3.22 The results of the Natural England Rapid Risk Assessment indicate that the site is sufficiently small and distant from *all* ponds that any proposed development is highly unlikely to impact upon any great crested

newt populations associated with those ponds. The presence of great crested newt at the site is reasonably discounted.

Reptile Species

- 2.3.23 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 2.5**, below.

Table 2.5: 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

- 2.3.24 Evidence of other wildlife (including Priority Species) 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.

2.4 Survey and Reporting Limitations

- 2.4.1 The survey was completed when plant species are in a vegetative state and few are flowering; the surveyor is experienced in identifying plant species from their vegetative characteristics however, and this survey updates those completed in September 2021; a reliable assessment of the habitats present was possible.
- 2.4.2 The survey was completed outside the bat active season, when any field signs of bats may have weathered from the external elevations of the building. Daylight bat inspections can be completed at any time of year, however and it is considered that a reliable assessment of the likely presence or absence of bats has been possible
- 2.4.3 No access was possible to the internal area of the electricity sub-station (Building 2), however it is considered that a reliable assessment of the suitability of the building for use by roosting bats has been possible despite this access constraint; the building does not support any features typically associated with roosting bats, and is considered to be of 'negligible' suitability for use by roosting bats.
- 2.4.4 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).

- 2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2021) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species (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 BAP has been taken into account in the evaluation of the site.

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 lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the overlapping Rochdale Canal SSSI and Rochdale Canal Special Area of Conservation (SAC), which are located 2.7 kilometres to the east of the site and designated for their aquatic flora including the European Protected Species Floating Water-plantain (*Luronium natans*). The site is also located across Manchester Old Road from Alkington Woods Local Nature Reserve (LNR).
- 3.1.2 The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2023):
 - a. Airports, helipads and other aviation proposals.
 - b. Planning applications for quarries, including: new proposals, Review of Minerals Permissions, extensions, variations to conditions etc. Oil and gas exploration / extraction.
 - c. Any industrial / agricultural development that could cause air pollution (including industrial processes, livestock and poultry units with a floorspace greater than 500m², slurry lagoons and digestate stores greater than 750m², and manure stores greater than 3500 tonnes).
 - d. 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.
- 3.1.3 The proposals do not match any of the development categories which would require further consultation with Natural England in respect of potential risks from the proposed development to the statutory designated sites for nature conservation present in the wider area.

Non-statutory Designated Sites for Nature Conservation

- 3.1.4 The site is not and does not form part of any non-statutory designated site for nature conservation, named 'Sites of Biological Importance' (SBIs) in Greater Manchester. Five SBIs are located within 2 kilometres of the site, as summarised at **Table 3.1** below.

Table 3.1: SBIs within 2 Kilometres of the Site

SBI Name	Distance and Direction from Site	Reasons for Designation
Alkington Woods and Rhodes Lodges	0.1km to the south of the site	Habitat Mosaics (HM1)
Boardman Brook	0.51km to the south-west of the site	Woodland (Wd1)
Streams and Flushes near Bradley Hall Farm	1.32km to the west of the site	Grassland (Gr2)
Higher Boarshaw Clough	1.75km to the north-east of the site	Ponds & Small Lodges (Fw2)
Scowcroft Reservoir	1.94km to the north-east of the site	Ponds & Small lodges (Fw2)

Priority Habitats Inventory

- 3.1.5 The Priority Habitats Inventory² was checked via MAGiC Maps. No Priority Habitats are reported for the site.

Protected and Notable Species

- 3.1.6 At the time of writing the results of the data search with GLMRC are pending.

2021 Report

- 3.1.7 The 2021 report described the site as follows:

'The approximately 1.12 hectare site is located within a suburban area of Middleton and supports a disused former office building (Building 1), an electricity substation (Building 2), areas of unmanaged former amenity grassland, tree lines and ornamental planting and hard standing with locally frequent colonising ruderal herbs.'

'The northern site boundary is defined by fencing, beyond which lies a playing field of amenity grassland. The eastern site boundary is defined by fencing beyond which lies car parking and ornamental planting. The southern site boundary is defined by a wall beyond which lies Manchester Old Road and Alkington Woods LNR. The western site boundary is defined (at its southern end) by buildings associated with Middleton Cenotaph, and at its northern end by fencing, beyond which lie residential gardens and housing.'

- 3.1.8 The habitats within the site were evaluated as follows:

'The site contains only common and widespread plant species. None of the habitats within the site are of significant interest in terms of their plant species composition. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. No Priority Habitats are present within the site.'

'The tree lines are assessed to be of 'local' value (in terms of their geographical context³,) as they contribute to the diversity of habitats within the sites and its surroundings and provide suitable habitat for species such as foraging and nesting birds and foraging and commuting bats.'

- 3.1.9 Both buildings were considered to be of 'negligible' suitability for use by roosting bats.
- 3.1.10 One tree (tree FS1 in the 2021 report and in this report) was assessed to support a feature 'potentially suitable for use by roosting bats', which was described as follows:

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

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

a single upward facing knot hole at 6 metres from the ground on its main stem. As observed from the ground the feature was considered likely to be blind (i.e. to not extend into a cavity within the tree) but this could not be confirmed from the ground.

3.1.11 The site was described as follows in relation to its suitability for use by nesting birds:

'The trees and shrubs are all suitable for use by nesting passerine (i.e. perching) species, including those detected within the site during the survey. It is considered that Building 1 (which is largely well sealed, but supports gaps which could facilitate access by birds at its corrugated metal sheeting roof) may provide suitable habitats for nesting birds such as feral pigeon (Columba livia), however no signs of nesting birds were noted during the internal inspection...

...no sign of nesting barn owl was detected during the inspection of the buildings, and it is considered that the presence of barn owl is reasonably discounted.'

3.1.12 The presence of protected or notable species was otherwise reasonably discounted at the site.

3.2 Vegetation and Habitats

General Description

3.2.1 The approximately 1.11 hectares site remains as described in the 2021 report, is located within a suburban area of Middleton, and supports a disused former office building (Building 1), an electricity substation (Building 2), areas of unmanaged former amenity grassland, tree lines and ornamental planting and hard standing with locally frequent colonising ruderal herbs.

3.2.2 The northern site boundary is defined by fencing, beyond which lies a playing field of amenity grassland. The eastern site boundary is defined by fencing beyond which lies car parking and ornamental planting. The southern site boundary is defined by a wall beyond which lies Manchester Old Road and Alkington Woods LNR. The western site boundary is defined (at its southern end) by buildings associated with Middleton Cenotaph, and at its northern end by fencing, beyond which lie residential gardens and housing.

3.2.3 A Phase 1 Habitat Survey map is appended at **Figure 2**, and can be referred to for all habitat descriptions. Photographs are appended at **Section 8.2**.

Amenity Grassland with Planted Tree

3.2.4 Refer to **Photos 1 to 5**. The unmanaged former amenity grassland supports planted tree at the site margins and at the central grassland area.

3.2.5 The vegetation is characterised by constant and frequent Yorkshire-fog (*Holcus lanatus*), frequent Perennial Rye-grass (*Lolium perenne*), occasional and locally frequent Timothy (*Phleum pratense*), Red Fescue (*Festuca rubra*) and Common Bent (*Agrostis capillaris*), occasional and very locally frequent Creeping Buttercup (*Ranunculus repens*) and occasional Dandelion (*Taraxacum officinale* agg.), Ribwort Plantain (*Plantago lanceolata*), Daisy (*Bellis perennis*), Broad-leaved Willowherb (*Epilobium montanum*), Cock's-foot (*Dactylis glomerata*), Common Ragwort (*Senecio jacobaea*) and Great Willowherb (*Epilobium hirsutum*).

3.2.6 A single spike of Common Spotted-orchid (*Dactylorhiza fuchsii*) was noted at the south-western patch of former amenity grassland in 2021. Although infrequent in amenity grassland, this species is widespread and found throughout the UK.

3.2.7 The tree lines are characterised by locally frequent Goat Willow (*Salix caprea*), Leyland Cypress (*X Cuprocyparis leylandii*) and Ash (*Fraxinus excelsior*), Sycamore (*Acer pseudoplatanus*), Horse-chestnut (*Aesculus hippocastanum*), and Wild Cherry (*Prunus avium*) with very locally abundant False-acacia (*Robinia pseudoacacia*) and rare Hornbeam (*Carpinus betulus*) and Lime species (*Tilia* sp.).

- 3.2.8 A plant species list is appended at **Table 8.1**. The grassland and planted trees are described by the UKHab as g4 modified grassland with the secondary code 10 scattered scrub, 11 scattered trees, 76 recent management (i.e. within 3 years) and 64 mown, and is indicative of a *MG7 Lolium perenne* ley grassland (Rodwell, 1992) with an area at the north-eastern end of the site which is in a state of succession towards an *MG1 False Oat-grass* grassland (Rodwell, 1992) due to a lack of regular management.

Ornamental Planting

- 3.2.9 Refer to **Photos 6 and 7**. The vegetation is characterised by occasional and locally abundant Holly (*Ilex aquifolium*), occasional Ash saplings, Hawthorn (*Crataegus monogyna*) and Sycamore saplings, locally abundant Atlantic Ivy (*Hedera hibernica*), Barberry species (*Berberis* sp.), Entire-leaved Cotoneaster (*Cotoneaster integrifolius*), Fir species (*Abies* sp.), Shrubby Cinquefoil (*Potentilla fruticosa*), Snowberry (*Symphoricarpos albus*) and Swedish Whitebeam (*Sorbus intermedia*), locally frequent Darwin's Barberry (*Berberis darwinii*), Field Maple (*Acer campestre*), Franchet's Cotoneaster (*Cotoneaster franchetii*) and Leyland Cypress (*X Cuprocyparis leylandii*) and very locally frequent Beech (*Fagus sylvatica*), Bramble (*Rubus fruticosus* agg.), Dogwood (*Cornus sanguinea*) and Horse-chestnut. A plant species list is appended at **Table 8.2**.
- 3.2.10 The habitat is not typical of any NVC community and is described by the UKHab as h3h mixed scrub with the secondary code 48 non-native.

Vegetation Colonising Hard Standing and Buildings

- 3.2.11 The two buildings within the site do not support any vegetation and are described in detail in relation to their suitability for use by roosting bats at **Section 3.3** below. They are described by the UKHab as u1b5 buildings.
- 3.2.12 Refer to **Photos 8 to 10**. The vegetation colonising the hard standing is characterised by occasional and very locally frequent Selfheal (*Prunella vulgaris*), occasional Broad-leaved Willowherb, Canadian Fleabane (*Conyza canadensis*), Colt's-foot (*Tussilago farfara*) and Common Ragwort, very locally frequent Atlantic Ivy, Bramble, Butterfly-bush (*Buddleja davidii*) and Creeping Bent (*Agrostis stolonifera*) and rare Ash saplings, Cleavers (*Galium aparine*), Creeping Thistle (*Cirsium arvense*) and Dandelion.
- 3.2.13 The vegetation is not typical of any NVC community and is described by the UKHab as u1b6 other developed land with the secondary code 17 ruderal / ephemeral.

Invasive Plant Species

- 3.2.14 As illustrated on **Figure 2**, stands of Entire-leaved Cotoneaster, Rhododendron and Indian Balsam 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** below.

3.3 Animal Life

Badger

- 3.3.1 No badger or signs of badger were detected within the site or within the accessible 50 metres around the site. The presence of badger is reasonably discounted.

Bat Species

Daylight Survey: Buildings

Building 1

- 3.3.2 Refer to **Photos 11 to 16**. Building 1 is a detached four storey disused former office building constructed from concrete panel walls with a cross-hipped roof of corrugated metal sheeting and parapet walls at each

elevation. Single-storey extensions are present at the south-western and northern elevations of the building. The building remains as described in the 2021 report externally but has been subject to vandalism damage internally.

- 3.3.3 Externally the building appears well-sealed with no gaps suitable for access by bats present at the walls or at the well-sealed plastic windows. The plastic fascia at the single-storey extension at the south-western end of the building is well-sealed and no gaps suitable for access by bats are present at the louvred doors at the northern extension; these are blocked by metal meshing internally.
- 3.3.4 Internally the building supports a single roof void under the hipped roof which is unlined, well-lit by skylights and supported on metal trusses and purlins. Gaps suitable for access by bats are present at the metal sheeting but no bats or signs of bats were detected within the void, which does not support any features suitable for use by either crevice dwelling species, such as common pipistrelle (*Pipistrellus pipistrellus*) and is too well lit to be suitable for use by species which are known to roost in the open in voids, such as brown long-eared bats (*Plecotus auritus*).
- 3.3.5 Roof-top rooms are present at the western end of the centre of the building, housing water tanks and the top of the lift shaft; no gaps suitable for access by bats are present at either structure.
- 3.3.6 A basement area (a former vault) and the lift shaft are also present but no suitable access for bats from the external areas of the building are present.
- 3.3.7 No bats or signs of bats were detected at the building's exterior or interior, and the building is considered to be of negligible suitability for use by roosting bats. The presence of roosting bats is reasonably discounted at the building.

Building 2

- 3.3.8 Refer to **Photos 17 to 19**. Building 2 is a detached single-storey electricity substation constructed from walls of mortared brick which support a flat roof. No features suitable for access by roosting bats were detected at the building; the louvred gaps at the door are covered by a wire mesh internally (observable from the building's exterior) and the timber fascia at the western end of the building is well sealed.
- 3.3.9 No bats or signs of bats were detected at the building's exterior and the building is considered to be of negligible suitability for use by roosting bats.

Trees

- 3.3.10 The upward facing knot hole detected at Fs1 during the 2021 surveys appears to have healed and does not appear to provide suitable habitat for roosting bats.
- 3.3.11 Tree 1 (refer to **Photo 20**), located at the north-western end of the site in proximity to Building 1, supports a split at its base leading to a rot hole; no bats or signs of bats were detected at the feature. Owing to the tree's location within the wider landscape the tree is considered to be of low suitability for use by roosting bats.
- 3.3.12 Tree 2 (refer to **Photo 21**) is located at the south-eastern end of the site supports a rot hole at its base; no bats or signs of bats were detected at the feature. Owing to the tree's location within the wider landscape the tree is considered to be of low suitability for use by roosting bats.

Habitat Assessment for Commuting and Foraging Bats

- 3.3.13 The habitats present may be suitable for and contribute to the wider foraging area of low numbers of common species of edge-feeding foraging bats, such as common pipistrelle.
- 3.3.14 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.

- 3.3.15 The habitats are located within proximity to woodland and waterbodies to the north and south and it is considered that the tree lines will contribute to the available habitats suitable for use by commuting bats in the wider area. This is considered further at **Section 4.4** below.

Summary of Results

- 3.3.16 A summary of the survey results presented above is provided at **Table 3.3** below. The results are evaluated at **Section 4.4** below.

Table 3.2: Summary of Bat Survey Results

Building/Tree Ref	Suitability for Use by Roosting Bats	Requirement for Further Survey / Results of Activity Surveys
Buildings 1 and 2	Negligible	No requirement for further survey
Tree Fs1	Negligible	No requirement for further survey
Trees 1 and 2	Low	No requirement for further survey, appropriate procedures must be followed during any works to the trees.

Bird Species

- 3.3.17 Birds detected in the site in September 2021 and January 2023 are listed below at **Table 3.4**.

Table 3.3: Bird species Detected on 15th September 2021 and 26th January 2023

Scientific Name	Common Name	BOCC Status ¹	Priority Species?
<i>Aegithalos caudatus</i>	Long-tailed tit	Green	No
<i>Ardea cinerea</i>	Grey heron	Green	No
<i>Columba palumbus</i>	Wood pigeon	Green	No
<i>Corvus corone corone</i>	Carrion crow	Green	No
<i>Cyanistes caeruleus</i>	Blue tit	Green	No
<i>Erithacus rubecula</i>	Robin	Green	No
<i>Parus major</i>	Great tit	Green	No
<i>Pica pica</i>	Magpie	Green	No

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

- 3.3.18 The grey heron and carrion crow observed in 2021 were flying over the site. The remainder of the birds were associated with the trees and ornamental planting within the site.
- 3.3.19 The trees and shrubs are all suitable for use by nesting passerine (i.e. perching) species, including those detected within the site during the survey. It is considered that Building 1 (which is largely well sealed, but supports gaps which could facilitate access by birds at its corrugated metal sheeting roof) may provide suitable habitats for nesting birds such as feral pigeon (*Columba livia*), however no signs of nesting birds were noted during the internal inspection.
- 3.3.20 This is considered further at **Section 4.4**, below.
- 3.3.21 No sign of nesting barn owl was detected during the inspection of the buildings, and it is considered that the presence of barn owl is reasonably discounted.

Reptiles

- 3.3.22 The habitats at the site have, until recently, been regularly disturbed and heavily managed. There are no piles of garden waste or other suitable debris for use by sheltering or hibernating reptiles, and the species-poor habitats within the site are reasonably unlikely to support a large population or a variety of invertebrate prey.
- 3.3.23 The site is not adjacent or linked to any areas of favourable habitat for reptile species. The presence of reptiles within the site is reasonably discounted.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 In accordance with *Parkfield House – Parkfield House – Landscape Proposals, Sheets 1 and 2, Dwg. Nos 7082.01 and 7082.2, Rev E* (TBA Landscape Architecture, 2023), hereafter the ‘proposals plans’, it is proposed to demolish Building 1 and redevelop the site to a residential care home and residential dwellings with associated gardens, access and car parking.
- 4.1.2 Importantly the majority of the mature trees within the site at the site boundaries will be retained and incorporated into the design of the site.
- 4.1.3 **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 site is sufficiently small and distant from all designated sites for nature conservation that the proposed development will have no impact upon them. The habitats within the site are not complimentary to and are unlikely to contribute to the designated sites for nature conservation present within 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 are present.
- 4.3.2 In terms of each habitat’s importance in a geographical context⁴, the mature trees are assessed to be of ‘local’ value as they contribute to the diversity of habitats within the sites and its surroundings and provide suitable habitat for species such as foraging and nesting birds and foraging and commuting bats. The remaining habitats within the site are not assessed to hold any importance in terms of their geographical context.
- 4.3.3 In accordance with the proposals plans, the tree lines at the site boundaries will be retained by the proposed development. Recommendations for the retention and protection of the tree lines (where feasible) are presented at **Section 5.2** of this report. The retention of the tree lines also creates the opportunity to retain the Common Spotted-orchid within the site via appropriate management of these areas. Recommendations relating to the management of the retained tree lines is presented at **Section 5.6**.
- 4.3.4 The presence of Entire-leaved Cotoneaster, Rhododendron and Indian Balsam, all invasive plant species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), has been detected within the site. It is considered that the proposals present an opportunity for the eradication of these species as part of the proposed development. Further guidance is presented at **Section 5.3** of this report.

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.

4.4 Protected Species and Other Wildlife

- 4.4.1 Habitats within and adjacent to the site are suitable for foraging and commuting bats. Recommendations relating to the retention of features suitable for use by foraging and commuting bats, and features to enhance habitats for roosting bats at the site are presented at **Section 5.4**.
- 4.4.2 Both buildings are considered to be of 'negligible' suitability for use by roosting bats. No further surveys are required to inform this assessment. Trees 1 and 2 are both considered to be of 'low' suitability for use by roosting bats; appropriate measures to be adopted if works are required at the trees, or the trees are to be removed in accordance with the proposed development, are presented at **Section 5.4**.
- 4.4.3 The trees, shrubs and Buildings 1 and 2 provide suitable habitat for nesting birds. Consideration of birds (including protection of breeding birds and recommended enhancements for Priority Species) are presented at **Section 5.5** of this report.
- 4.4.4 The presence of protected and notable species is otherwise reasonably discounted.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

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

5.2 Protection of Existing Vegetation

Protection of Trees and Shrubs

- 5.2.1 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.
- 5.2.2 The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

5.3 Invasive Plant Species

- 5.3.1 It is an offence under the *Wildlife and Countryside Act 1981* (as amended) to cause the spread of Entire-leaved Cotoneaster, Rhododendron and Indian Balsam in the wild. It is recommended that a specialist contractor is employed for the eradication of these species at the site, and that this is completed under a suitable Invasive Species Management Plan.

5.4 Bats

Lighting

- 5.4.1 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 tree lines, areas of ecological enhancement and any landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.
- 5.4.2 The lighting scheme will be designed with reference to current guidance, namely:
- Guidance Note 8: Bats and Artificial Lighting in the UK* (Institution of Lighting Professionals & Bat Conservation Trust, 2018); and
 - Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

Trees 1 and 2

- 5.4.3 It is recommended that Trees 1 and 2 are retained by the proposed development.
- 5.4.4 It is recommended that the following measures are adopted if the proposed development requires the works to or the felling of Trees 1 and 2, or if the proposals require the felling of any mature trees.
- 5.4.5 In accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016) it is essential that the following actions are applied during any works to the two trees (including felling):
- The optimal time for tree removal is between September and late February inclusive.
 - The two trees must be section / soft felled under the supervision of a licensed bat surveyor.
 - The sectioning must avoid cutting through or close to any cavities, and 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).
 - 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.
- 5.4.6 All other trees scheduled for removal can be felled in accordance with general arboricultural practice and taking into consideration the protection afforded to nesting birds.

Enhancing Habitats for Roosting Bats

- 5.4.7 It is recommended that the development incorporates the installation of bat access panels at the new buildings.
- 5.4.8 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) or Wild Care (www.wildcare.co.uk) and are presented at **Insert 1**, below:



Insert 1: Examples of integrated bat access panels and an externally mounted box⁵

- 5.4.9 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.
- 5.4.10 Suitable bat boxes are the Schwegler 1FF, Greenwood Ecohabitat's single or double cavity boxes and Schwegler 1FD, see **Insert 2**, below.



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

- 5.4.11 Bat boxes should be installed to the following guidelines (Bat Conservation Trust, 2016):
- At least 4 metres above the ground (where safe installation is possible);
 - 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;
 - Located close to unlit linear features, such as lines of trees or hedgerows; and
 - 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 Birds

Protection

- 5.5.1 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably

⁵ 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.

experienced ecologist. The bird breeding season typically extends between March to August inclusive (Natural England, 2015).

- 5.5.2 If breeding birds are detected the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.

Enhancing Habitats for Nesting Birds

House Sparrow

- 5.5.3 House sparrows are associated with suburban areas. Monitoring suggests a severe decline in the UK house sparrow population, estimated as halving in rural areas, and dropping by 60% in towns and cities since the mid-1970's (RSPB, 2018).
- 5.5.4 The installation of house sparrow terrace nest boxes is recommended at the proposed new housing. 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. An example of a suitable house sparrow bird box is given below at **Insert 3**:



Insert 3: Schwegler 1SP House Sparrow Nesting Terrace

- 5.5.5 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.

Other Birds

- 5.5.6 A variety of bird boxes are to be installed at the retained mature trees within the site. An ecologist will advise on the siting of the bird boxes whilst on 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 4 metres from ground level.
- 5.5.7 Each of the boxes (or similar boxes of long-lasting design) presented at **Insert 4**, below, will be used.



Insert 4: Schwegler 3S, Schwegler 1N, Schwegler 2M and Schwegler 2H bird boxes, suitable for a variety of bird species.

Swift

- 5.5.8 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.
- 5.5.9 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** below.



Insert 5: Examples of swift nest boxes⁶

5.6 Enhancement and Management of Retained Habitats and Landscape Planting

Enhancement and Management of Retained Habitats

- 5.6.1 It is recommended that the retained belts of trees and shrubs are brought into active management for biodiversity and to promote the longevity of the habitat. A Habitat Management Plan would be prepared to include the following:
- Specification of the removal / control and safe disposal of invasive species such as Rhododendron.
 - Installation of bat and bird boxes;
 - Creation of dead wood habitat piles for colonisation by invertebrates, fungi and small mammals;
 - Plug planting of woodland herbs such as native Bluebell (*Hyacinthoides non-scripta*); and
 - Ensuring the mowing regime is aware of the presence of Common Spotted-orchid at the site, and that spikes are avoided by any mowing regime. The provision of wildflower grassland within the landscape planting will also ensure that habitats within the site remain suitable for this species.

⁶ From left to right No. 17A Schwegler Swift Nest Box (Triple Cavity) as installation (left), Manthorpe Swift Nesting Box (centre) and Ibstock Eco-habitat for Swift (right), all available from www.NHBS.com

Maintenance of Habitat Connectivity Throughout the Developed Site

- 5.6.2 To ensure habitat connectivity is maintained as part of the development proposals, gaps within the proposed fencing (see **Insert 6**, below, as reproduced from *Hedgehogs and Development* (British Hedgehog Preservation Society / PTES, 2019)) to allow access by other wildlife (including hedgehog) should be incorporated across the site. It is recommended that suitable wildlife gaps (at least 0.1 metre tall and 0.15 metre wide) are installed at suitable intervals around the base of the proposed fencing.



Insert 6: Showing wildlife access gap within fencing

Landscape Planting

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

Table 5.1: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
<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

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

6.0 CONCLUSION

- 6.1 This ecological assessment has demonstrated that the proposed development at the site is feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework.
- 6.2 It is possible to implement reasonable actions for the protection and long-term conservation of fauna such as nesting birds and commuting / foraging bats associated with the site.
- 6.3 Measures to conserve the habitat connectivity through the site are entirely feasible.
- 6.4 Development at the site will provide an opportunity to secure ecological enhancement for fauna typically associated with suburban areas such as breeding birds and roosting bats.

7.0 REFERENCES

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8.0 APPENDIX: TABLES, PHOTOGRAPHS AND FIGURES

8.1 Plant Species List

Table 8.1: Plant Species List for Amenity Grassland and Planted Trees

Scientific Name	Common Name	DAFOR	% Cover
Woody Species			
<i>Abies</i> sp.	Fir species	R	<1%
<i>Acer pseudoplatanus</i>	Sycamore	O	<1%
<i>Aesculus hippocastanum</i>	Horse-chestnut	O	<1%
<i>Carpinus betulus</i>	Hornbeam	R	<1%
<i>Cornus sanguinea</i>	Dogwood	R	<1%
<i>Corylus avellana</i>	Hazel	R	<1%
<i>Cytisus scoparius</i>	Broom	R	<1%
<i>Fagus sylvatica</i>	Beech	LA	10%
<i>Fraxinus excelsior</i>	Ash	R	<1%
<i>Ilex aquifolium</i>	Holly	VLA	<1%
<i>Pinus sylvestris</i>	Scots Pine	VLA	<1%
<i>Platanus hispanica</i>	London Plane	VLA	5%
<i>Prunus avium</i>	Wild Cherry	O	<1%
<i>Quercus robur</i>	Pedunculate Oak (sapling)	VLF	<1%
<i>Rhododendron ponticum</i>	Rhododendron	R	<1%
<i>Robinia pseudoacacia</i>	False-acacia	VLA	<1%
<i>Salix caprea</i>	Goat Willow	VLF	<1%
<i>Sorbus aucuparia</i>	Rowan	R	<1%
<i>Sorbus intermedia</i>	Swedish Whitebeam	VLA	<1%
<i>Tilia</i> sp.	Lime species	R	<1%
<i>X Cuprocyparis leylandii</i>	Leyland Cypress	VLA	<1%
Herb Species			
<i>Achillea millefolium</i>	Yarrow	VLF	<1%
<i>Agrostis capillaris</i>	Common Bent	O/LF	10%
<i>Agrostis stolonifera</i>	Creeping Bent	LF	5%
<i>Alchemilla mollis</i>	Garden Lady's-mantle	VLF	<1%
<i>Bellis perennis</i>	Daisy	O	5%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	O	<1%
<i>Cirsium arvense</i>	Creeping Thistle	VLF	<1%
<i>Dactylis glomerata</i>	Cock's-foot	O	<1%
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid	R	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	O	<1%
<i>Epilobium montanum</i>	Broad-leaved Willowherb	O	<1%
<i>Equisetum arvense</i>	Field Horsetail	VLF	<1%
<i>Festuca rubra</i>	Red Fescue	O/LF	5%
<i>Geum urbanum</i>	Wood Avens	R	<1%
<i>Hedera helix</i>	Ivy	R	<1%
<i>Hieracium</i> sp.	Hawkweed species	R	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	F*	50%
<i>Juncus effusus</i>	Soft-rush	R	<1%
<i>Lathyrus pratensis</i>	Meadow Vetchling	VLA	<1%
<i>Lolium perenne</i>	Perennial Rye-grass	F	20%
<i>Phleum pratense</i>	Timothy	O/LF	1%
<i>Plantago lanceolata</i>	Ribwort Plantain	O	1%
<i>Ranunculus acris</i>	Meadow Buttercup	O	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	O/VLF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	VLA	<1%
<i>Rumex acetosa</i>	Common Sorrel	VLF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	1%
<i>Vicia sativa</i>	Common Vetch	VLF	<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 Planting

Scientific Name	Common Name	DAFOR	% Cover
Woody Species			
<i>Abies</i> sp.	Fir species	LA	<1%
<i>Acer campestre</i>	Field Maple	LF	<1%
<i>Acer pseudoplatanus</i>	Sycamore (sapling)	O	<1%
<i>Aesculus hippocastanum</i>	Horse-chestnut	VLF	<1%
<i>Berberis darwinii</i>	Darwin's Barberry	LF	<1%
<i>Berberis</i> sp.	Barberry species	LA	<1%
<i>Cornus sanguinea</i>	Dogwood	VLF	<1%
<i>Cotoneaster franchetii</i>	Franchet's Cotoneaster	LF	<1%
<i>Cotoneaster integrifolius</i>	Entire-leaved Cotoneaster	LA	<1%
<i>Crataegus monogyna</i>	Hawthorn	O	<1%
<i>Fagus sylvatica</i>	Beech	VLF	<1%
<i>Fraxinus excelsior</i>	Ash (sapling)	O	<1%
<i>Ilex aquifolium</i>	Holly	O/LA	<1%
<i>Sambucus nigra</i>	Elder	R	<1%
<i>Sorbus intermedia</i>	Swedish Whitebeam	LA	<1%
<i>Symphoricarpos albus</i>	Snowberry	LA	<1%
<i>X Cuprocyparis leylandii</i>	Leyland Cypress	LF	<1%
Herb Species			
<i>Geranium endressii</i>	French Crane's-bill	R	<1%
<i>Hedera hibernica</i>	Atlantic Ivy	LA	<1%
<i>Potentilla fruticosa</i>	Shrubby Cinquefoil	LA	<1%
<i>Rubus fruticosus</i> agg.	Bramble	VLF	<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: Plant Species List for Ruderal Herbs Colonising Hard Standing

Scientific Name	Common Name	DAFOR	% Cover
Woody Species			
<i>Acer pseudoplatanus</i>	Sycamore (sapling)	R	<1%
<i>Buddleja davidii</i>	Butterfly-bush	VLF	<1%
<i>Fraxinus excelsior</i>	Ash (sapling)	R	<1%
<i>Salix caprea</i>	Goat Willow (sapling)	VLF	<1%
<i>X Cuprocyparis leylandii</i>	Leyland Cypress (sapling)	VLF	<1%
Herb Species			
<i>Agrostis stolonifera</i>	Creeping Bent	VLF	<1%
<i>Alchemilla mollis</i>	Garden Lady's-mantle	R	<1%
<i>Bellis perennis</i>	Daisy	R	<1%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	VLF	<1%
<i>Cirsium arvense</i>	Creeping Thistle	R	<1%
<i>Conyza canadensis</i>	Canadian Fleabane	O	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	VLF	<1%
<i>Epilobium montanum</i>	Broad-leaved Willowherb	O	<1%
<i>Festuca rubra</i>	Red Fescue	VLF	<1%
<i>Galium aparine</i>	Cleavers	R	<1%
<i>Geranium endressii</i>	French Crane's-bill	R	<1%
<i>Hedera helix</i>	Ivy	VLF	<1%
<i>Hedera hibernica</i>	Atlantic Ivy	VLF	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	VLF	<1%
<i>Impatiens glandulifera</i>	Indian Balsam	R	<1%
<i>Lolium perenne</i>	Perennial Rye-grass	VLF	<1%
<i>Plantago major</i>	Greater Plantain	R	<1%
<i>Prunella vulgaris</i>	Selfheal	O/VLF	<1%
<i>Reseda luteola</i>	Weld	R	<1%
<i>Rubus fruticosus</i> agg.	Bramble	VLF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	R	<1%
<i>Tussilago farfara</i>	Colt's-foot	O	<1%
*Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species			

8.2 Photographs



Photo 1: Amenity grassland with ornamental shrubs



Photo 2: Amenity grassland bordered by tree planting



Photo 3: Unmanaged former amenity grassland



Photo 4: Amenity grassland and planted trees



Photo 5: Amenity grassland and planted trees



Photo 6: Ornamental shrubs and planted trees



Photo 7: Ornamental shrubs and planted trees



Photo 8: Hard standing



Photo 9: Hard standing with colonising ruderal herbs



Photo 10: Hard standing bordered by planted trees



Photo 11: Building 1, eastern elevation



Photo 12: Building 1, northern elevation, eastern end



Photo 13: Building 1, northern elevation, western end and western elevation



Photo 14: Building 1, western elevation, southern end



Photo 15: Building 1, roof void



Photo 16: Building 1 internal area



Photo 17: Building 2, eastern and southern elevations



Photo 18: Building 2, western and northern elevations



Photo 19: Building 2 internal area



Photo 20: Tree 1



Photo 21: Tree 2

8.3 Figures

Figure 1: Aerial Image of the Site and its Surroundings



Figure 2: Phase 1 Habitat and Vegetation Map





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