

Land at Lyneham, Whiston L35 3TH

ECOLOGICAL SURVEY AND ASSESSMENT

September 2022

[ERAP (Consultant Ecologists) Ltd ref: 2022-201]

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	Survey Date(s)
Phase 1 Habitat Survey	Amy Sharples B.Sc. (Hons) M.Sc. ACIEEM	8 th July 2022
Reporting	Personnel	Date
Author	Amy Sharples B.Sc. (Hons) M.Sc. ACIEEM Senior Ecologist	15 th September 2022
Signature(s)		
Checked	Brian Robinson B.Sc. (Hons) MCIEEM Senior Ecologist	16 th September 2022
Revised and issued	Amy Sharples B.Sc. (Hons) M.Sc. ACIEEM	20 th September 2022
Report issued to	Built Group Ltd	
Version Number	1	

SUMMARY

Introduction and Scope

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of land at Lyneham, Whiston L35 3TH. The assessment was requested in connection with proposals to develop the site to residential properties with associated roads, parking and landscaping.
- ii. This report presents the results of a desktop study, data search and extended Phase 1 Habitat Survey carried out in July 2022. 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 and bare earth, amenity grassland, unmanaged grassland, scrub and scattered broad leaved trees.

Results of Survey and Assessment

- iv. The proposals will have no adverse effect on statutory or non-statutory designated sites for nature conservation.
- v. None of the habitats within the site are of significant interest in terms of their plant species composition; only common and widespread plant species were recorded. None of the habitats present are semi-natural or are Priority Habitat. The National Vegetation Classification (NVC) communities present are typical of the geographical area and site conditions.
- vi. Tree 1 supports Ivy cover and is assessed to be of 'low' suitability for use by roosting bats. The habitats within and adjacent to the site are suitable for use by foraging and commuting bats; recommendations relating to the protection of roosting, foraging and commuting bats, and features to enhance habitats for roosting bats at the site are presented at **Section 5.3**.
- vii. The scrub and scattered broad leaved trees provide suitable foraging and nesting habitat for birds. Consideration of birds (including protection of breeding birds and recommended enhancements for Priority Species) are presented at **Section 5.4**.
- viii. No other protected species have been detected.

Recommendations

- ix. 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.
- x. The proposals will secure an opportunity to implement beneficial measures such 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

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

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Built Group Ltd to carry out an ecological assessment of land at Lyneham, Whiston L35 3TH (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SJ 47794 90994. 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 residential properties with associated roads, parking and landscaping.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in July 2022 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*), bird species and reptiles;
 - A preliminary daylight assessment of the trees for suitability for use by roosting bats;
 - The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and
 - The identification of any further surveys or precautionary actions that may be required prior to the commencement of any construction activities.

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

- 2.1.1 The following sources of information and ecological records were consulted:
- 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;
 - Merseyside BioBank (MBB); and
 - The North Merseyside Biodiversity Action Plan (BAP).

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. The presence of barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) has been reasonably discounted.

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Amy Sharples B.Sc. (Hons) M.Sc. ACIEEM on 8th July 2022. The weather was overcast with a light air (Beaufort scale 1) and an air temperature of 16°C.
- 2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area at a scale of 1:750 (refer to **Figure 2**). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.
- 2.2.3 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.
- 2.2.4 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.
- 2.2.5 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.
- 2.2.6 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).
- 2.2.7 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (as annotated on **Figure 1**) and extended to accessible land within a radius of 50 metres from the site boundary. Private 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;

- g. Badger hairs on fences or bushes;
- h. Scratching posts; and
- i. Signs of digging for food.

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

Bat Species

Daylight Survey: Trees

2.3.5 A preliminary assessment of the trees within the site was conducted to assess their suitability for use by roosting bats, and to inform whether further surveys or precautionary measures were required.

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

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

2.3.7 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).

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

Habitat Assessment for Commuting / Foraging Bats

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

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

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

Bird Species

- 2.3.10 Bird species observed and heard during the survey were recorded.
- 2.3.11 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, including Priority Species, as indicated by the habitats present at the site and in the surrounding area.

Reptile Species

- 2.3.12 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 2.2**, below.

Table 2.2: 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

- 2.3.13 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 All areas of the site were fully accessible at the time of the survey. No survey limitations were experienced.
- 2.4.2 All measurements within this report are approximate only, and have been either 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*

Regulations 2017 (as amended), 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 North Merseyside Biodiversity Action Plan has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Designated Sites for Nature Conservation and Site Designations

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 Mersey Estuary SSSI, Mersey Estuary SPA and Mersey Estuary Ramsar site, located 8.2 kilometres to the south of the site and designated for their importance to wintering wildfowl and passage migrants. 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, 2022):
- a. Airports, helipads and other aviation proposals;
 - b. Solar schemes with a footprint greater than 0.5 hectares and all wind turbines;
 - c. Livestock and poultry units with a floorspace greater than 500m², slurry lagoons and digestate stores greater than 4000m²;
 - d. General combustion processes greater than 50 megawatts energy input, including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment work and other incineration / combustion;
 - e. Landfill, including inert landfill, non-hazardous landfill and hazardous landfill; and
 - f. Any discharge of water or liquid waste of more than 20m³ per day to ground (i.e. to seep away) or to surface water, such as a beck or stream.
- 3.1.3 It is considered that the proposals do not meet the criteria which would require the local planning authority to consult with Natural England in respect of likely risks to the statutory designated sites as a consequence of the proposed development.

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, known as Local Wildlife Sites (or 'LWS') in Merseyside.
- 3.1.5 Eighteen LWS are located within 2 kilometres of the site and are summarised at **Table 3.1** below.

Table 3.1: Non-statutory Designated Sites for Nature Conservation within 2 Kilometres of the Site

LWS Name	Distance and Direction from site	Reasons for Designation
Parrens Covert	380 metres south	Relict heath with broadleaved woodland and pond. Surrounded by deep ditches with water.
Sandfield Park Woodland	550 metres south-west	Mature, predominantly broadleaved woodland with a pond, acidic grassland and scrub.
Lickers Lane Wood, Whiston	725 metres south-west	Long, narrow broadleaved woodland with a dense canopy and associated neutral grassland.
Blundell Hills Golf Course	960 metres south-east	The golf course contains a range of habitats including woodland, scrub, wetlands and hedgerows. The habitats support high diversity of species and includes a number of nationally regionally and locally rare species. 2 regionally important habitats (standing water and acid / neutral rock exposure) are present. 1 locally uncommon habitat (native species rich hedgerows and trees) is also present.
Stadt Moers Q2 and Visitor Centre, Whiston	1385 metres north-west	Small area of dense woodland with neutral grassland areas re-colonised on bare substrate.
Big water and Big Water Wood, Halsnead Park	1425 metres south-west	A lake that is regularly fished with a good mix of aquatic and emergent plants. Broadleaved woodland borders the lake. The site has 2 Priority BAP habitats, which are regionally important.
The Rough, Woodland	1520 metres south-east	Semi-natural woodland dominated by Oak (<i>Quercus</i> sp.) and Sycamore (<i>Acer pseudoplatanus</i>). The woodland contains abundant stands of Bluebell (<i>Hyacinthoides non-scripta</i>) as well as locally rare plant species.
The Old Wood, North	1550 metres south-west	Mature broadleaved woodland set in a clough valley with rock outcrops and a former quarry. The woodland was separated from the Old Wood South by construction of the M62 motorway.
Stadt Moers Q4, Whiston	1585 metres west	A large area of semi-improved neutral grassland with areas of scrub and developing broadleaved woodland.
Land East of Foxs Bank Brook	1650 metres south	A stream valley with broadleaved woodland on the east bank, possibly of ancient origin.
Tushingham's Quarry Pond, Stadt Moers	1660 metres south-west	A large open pond with varied habitats around its edges, from marsh to alkaline grassland to scrub and woodland.
Rough Head Wood, Cronton	1805 metres south-east	Semi-natural broadleaved woodland with ponds and a stream. Dead wood has been left and provides good habitat.
The Old Wood, South	1805 metres south-west	Predominantly broadleaved woodland with ditch and marsh habitats.
Huyton and Prescott Golf Club	1895 metres north-west	A well-managed golf course with woodland, ponds and wetlands. Prescott Brook forms part of the eastern boundary and water voles have been recorded. Plant typical of semi-natural woodland are found in the woodland areas.
Mine Waste, Cronton	1960 metres south-west	A predominantly wooded site with two ponds on its north-western side. A mix of dry and wet acid grasslands is present around the ponds and to the south.
Strettle's Bog, Tarbock	2020 metres south-west	Small area of broadleaved woodland and neutral grassland bisected by Chapel Brook.
Stadt Moers Q3, Huyton	2080 metres west	A mix of grassland, scrub and woodland habitats forming part of the Country Park at Stadt Moers.
Pendlebury Brook	2390 metres east	Stretch of Pendlebury Brook which provides habitat for water voles.

3.1.6 The presence of the LWS within 2 kilometres of the site is considered further at **Section 4.2** below.

Priority Habitats Inventory

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

Protected and Notable Species

- 3.1.8 Merseyside BioBank hold no records of protected and notable species for the site.
- 3.1.9 Records of protected and notable species for a 2 kilometre radius of the site are summarised at **Table 3.2** below.

Table 3.2: Records of Protected and Notable Species Within a 2 Kilometre Radius of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Amphibians	Great crested newt (<i>Triturus cristatus</i>): EPS, WCAs5, PS and NMBAP. 1 record from 2011; the record is located at Stadt Moers Park which lies 955 metres west of the site at its closest point. Common toad (<i>Bufo bufo</i>): PS. 24 records, dated between 1987 and 2016. The closest record is 1105 metres to the south-west of the site, and from 2010. Common frog (<i>Rana temporaria</i>). 75 records, dated between 1968 and 2019. The closest record is 375 metres to the south of the site, and from 2013. Smooth newt (<i>Lissotriton vulgaris</i>). 40 records, dated between 1990 and 2010. The closest record is 940 metres to the south of the site, and from 2010.
Birds – WCAs1 Species	Kingfisher (<i>Alcedo atthis</i>): WCAs1. 1 record from 2013, located 1685 metres to the south-west of the site. Little ringed plover (<i>Charadrius dubius</i>): WCAs1. 2 records, both from 2005. The closest record is 2105 metres to the south-west of the site.
Birds – PS & NMBAP	PS & NMBAP: Grey partridge (<i>Perdix perdix</i>), house sparrow (<i>Passer domesticus</i>), lapwing (<i>Vanellus vanellus</i>), skylark (<i>Alauda arvensis</i>), song thrush (<i>Turdus philomelos</i>) and starling (<i>Sturnus vulgaris</i>). PS Only: Cuckoo (<i>Cuculus canorus</i>), dunnoek (<i>Prunella modularis</i>), grasshopper warbler (<i>Locustella naevia</i>), linnet (<i>Linaria cannabina</i>), reed bunting (<i>Emberiza schoeniclus</i>), tree sparrow (<i>Passer montanus</i>) and yellowhammer (<i>Emberiza citrinella</i>). NMBAP Only: House martin (<i>Delichon urbicum</i>)
Bony Fish - Actinopterygii	European eel (<i>Anguilla anguilla</i>): PS. 5 records, dated between 1989 and 2008. The closest record is 1225 metres to the south-west of the site, and from 2000.
Flowering Plants	Bluebell (<i>Hyacinthoides non-scripta</i>) WCAs8 and NMBAP. (WCAs8 sale only). 96 records, dated between 1968 and 2021. The closest record is 375 metres to the south of the site, and from 2013.
Insects - Butterflies	Small heath (<i>Coenonympha pamphilus</i>) PS. 1 record from 1995; the record is located at Prescott Reservoir, which lies more than 2 kilometres north of the site. Wall (<i>Lasiommata megera</i>) PS. 15 records, dated between 1984 and 2005. The closest record is 1210 metres to the south-east of the site, and from 1984.
Insects - Dragonflies (all NMBAP)	Azure damselfly (<i>Coenagrion puella</i>), blue-tailed damselfly (<i>Ischnura elegans</i>), broad-bodied chaser (<i>Libellula depressa</i>), brown hawk (Aeshna grandis), common blue damselfly (<i>Enallagma cyathigerum</i>), common darter (<i>Sympetrum striolatum</i>), common hawk (Aeshna juncea), emerald damselfly (<i>Lestes sponsa</i>), emperor dragonfly (<i>Anax imperator</i>), four-spotted chaser (<i>Libellula quadrimaculata</i>), migrant hawk (Aeshna mixta) and southern hawk (Aeshna cyanea).
Insects - Moths	Buff ermine (<i>Spilosoma lutea</i>): PS. 2 records, dated 2013 and 2015. The closest record is 1310 metres to the north-east of the site, and from 2015.
Reptiles	Grass snake (<i>Natrix helvetica</i>) WCAs5 and PS. 2 records, both from 1998. The closest record is 570 metres to the north of the site.

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.

Taxon Group	Species Name and Designations ¹ and Notes
Terrestrial Mammals	Brown long-eared bat (<i>Plecotus auritus</i>): EPS, WCAs5, PS and NMBAP. 3 records, dated between 2006 and 2011. The closest record is 1220 metres to the south-west of the site, and from 2010.
	Noctule bat (<i>Nyctalus noctula</i>): EPS, WCAs5, PS and NMBAP. 12 records, dated between 2003 and 2015. The closest record is 1220 metres to the south-west of the site, and from 2010.
	Bat (Order <i>Chiroptera</i>): EPS, WCAs5 and NMBAP. 14 records, dated between 1988 and 2021. The closest record is 495 metres to the south of the site, and from 2011.
	Common pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS, WCAs5 and NMBAP. 49 records, dated between 2003 and 2021. The closest record is 420 metres to the south-west of the site, and from 2021.
	Daubenton's bat (<i>Myotis daubentonii</i>): EPS, WCAs5 and NMBAP. 3 records, dated between 2011 and 2015. The closest record is 1755 metres to the south-west of the site, and from 2011.
	Myotis bat species (<i>Myotis</i> sp.): EPS, WCAs5 and NMBAP. 1 record from 2011, located 1445 metres to the south-west of the site.
	Pipistrelle bat species (<i>Pipistrellus</i> sp.): EPS, WCAs5 and NMBAP. 4 records, dated between 1989 and 2015. The closest record is 1515 metres to the south-east of the site, and from 1989.
	European water vole (<i>Arvicola amphibius</i>): WCAs5, PS and NMBAP. 14 records, dated between 1989 and 2008. The closest record is 1445 metres to the south-west of the site, and from 2008.
	West European hedgehog (<i>Erinaceus europaeus</i>): PS. 60 records, dated between 2005 and 2022. The closest record is 255 metres to the south-east of the site, and from 2021.
	Brown hare (<i>Lepus europaeus</i>): PS and NMBAP. 3 records, dated between 2012 and 2014. The closest record is 1735 metres to the south-west of the site, and from 2012.
	Eurasian badger (<i>Meles meles</i>): PBA92. 2 records, dated 1987 and 2021. The closest record is more than 1000 metres from the site, and from 1987.
	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>): EPS, WCAs2, PS and NMBAP. 20 records, dated between 2003 and 2021. The closest record is 420 metres to the south-west of the site, and from 2021.
	Whiskered / Brandt's bat (<i>Myotis mystacinus / brandtii</i>): EPS, WCAs5 & NMBAP. 1 record from 2003; the record is located at Cronton Colliery which is approximately 1500 metres south of the site.
¹Key to Designation Codes: EPS = European Protected Species under the <i>Conservation of Habitats and Species Regulations 2017</i> (as amended). WCAs1 = Species receives full protection under Schedule 1 of the <i>Wildlife and Countryside Act 1981</i> (as amended). WCAs5 = Species receives full protection under Schedule 5 of the <i>Wildlife and Countryside Act 1981</i> (as amended). WCAs8 = Species receives full protection under Schedule 8 of the <i>Wildlife and Countryside Act 1981</i> (as amended). PBA92 = Protection of Badger Act 1992 PS = Priority Species listed under Section 41 of the NERC Act 2006. NMBAP = Species listed on the North Merseyside Biodiversity Action Plan.	

- 3.1.10 The presence of these protected and notable species within the wider area has been taken into account throughout this report.

3.2 Vegetation and Habitats

General Description

- 3.2.1 The approximately 0.36 hectare site is located within an urban surroundings and comprises hard standing, amenity grassland, unmanaged grassland, scrub and scattered broad leaved trees.
- 3.2.2 The southern site boundary is defined by fencing at its western end and by the boundary of an existing shop at its eastern end. Lyneham (a road) lies adjacent to the southern boundary. The western boundary is defined by fencing and Lyneham. Residential properties with gardens lie beyond the western boundary. The northern site boundary is defined by fencing; residential properties and their associated gardens lie beyond the northern site boundary. The eastern site boundary is defined by the footpath associated with Haslemere (a road).

- 3.2.3 A Phase 1 Habitat Survey map is appended at **Figure 2** and can be referred to for all habitat descriptions. Photographs are appended at **Table 8.4**.

Hard Standing

- 3.2.4 The hard standing (**Photo 1**) at the site is associated with car parking for the existing off-site shop and supports very locally frequent stands of Dandelion (*Taraxacum officinale* agg.), Pineappleweed (*Matricaria discoidea*), Annual Meadow-grass (*Poa annua*), Common Chickweed (*Stellaria media*), Spear Thistle (*Cirsium vulgare*), Rosebay Willowherb (*Chamerion angustifolium*) and Common Ragwort (*Senecio jacobaea*).
- 3.2.5 The hard standing is not characteristic of an NVC community and is described by the UKHab as u1b developed land; sealed surface with the following secondary codes 17 ruderal / ephemeral and 89 car park.

Amenity Grassland

- 3.2.6 The amenity grassland (**Photo 2**) is located at the south-eastern corner of the site and was short mown at the time of the survey. During the survey it was noted that the grassland is regularly disturbed by pedestrian activity.
- 3.2.7 The vegetation is characterised by constant and abundant Perennial Rye-grass (*Lolium perenne*), frequent Cock's-foot (*Dactylis glomerata*), Yorkshire-fog (*Holcus lanatus*) and White Clover (*Trifolium repens*), and occasional Smooth Meadow-grass (*Poa pratensis*), Rough Meadow-grass (*Poa trivialis*) and Creeping Buttercup (*Ranunculus repens*). Scattered broad leaved trees are present at the eastern and southern margins of the grassland, and are characterised by occasional Sycamore (*Acer pseudoplatanus*), Cherry species (*Prunus* sp.) and Lime species (*Tilia* sp.) and locally abundant Field Maple (*Acer campestre*). A plant species list is appended at **Table 8.1**.
- 3.2.8 The amenity grassland is characteristic of an *MG7 Lolium perenne* ley grassland of the NVC (Rodwell, 1992), and is described by the UKHab as g4 modified grassland with the following secondary codes 11 scattered trees and 64 mown.

Unmanaged Grassland

- 3.2.9 The western area of the site supports an area of unmanaged grassland (**Photo 3**), and unmanaged grassland is also present at the northern and eastern boundaries and associated with the edges of the scrub (**Photo 4**). The grassland has characteristics of former amenity grassland which has become rank due to lack of management.
- 3.2.10 The vegetation is characterised by occasional Creeping Thistle (*Cirsium arvense*), Cock's-foot, Yorkshire-fog, Perennial Rye-grass, Smooth Meadow-grass, Rough Meadow-grass, Creeping Buttercup, Broad-leaved Dock (*Rumex obtusifolius*), Dandelion, White Clover and Common Nettle (*Urtica dioica*) with locally abundant Crested Dog's-tail (*Cynosurus cristatus*), Field Horsetail (*Equisetum arvense*) and Cleavers (*Galium aparine*) and locally abundant Bramble (*Rubus fruticosus* agg.). A plant species list is appended at **Table 8.2**.
- 3.2.11 The unmanaged grassland is not currently characteristic of an NVC community. If the lack of management continues it is predicted that the grassland will form *MG1 Arrhenatherum elatius* grassland (Rodwell, 1992) and scrub habitat. The unmanaged grassland is described by the UKHab as g3c other neutral grassland with the following secondary codes: 10 scattered scrub, 16 tall herb and 77 neglected (unmanaged for 3 to 10 years).

Scrub

- 3.2.12 The scrub (**Photos 4 and 5**) at the site is unmanaged and lies at the northern site boundary and separates the eastern area of the site from the area of unmanaged grassland in the western area of the site.

3.2.13 The vegetation is characterised by abundant Silver Birch (*Betula pendula*), frequent Field Maple, Sycamore, Grey Willow (*Salix cinerea*) and Ivy and occasional Dogwood (*Cornus sanguinea*), Hawthorn (*Crataegus monogyna*), Bramble and Elder (*Sambucus nigra*). A plant species list is appended at **Table 8.3**.

3.2.14 The scrub is not characteristic of any NVC community, and is described by the UKHab as h3h mixed scrub with the following secondary codes 16 tall herb, 17 ruderal / ephemeral and 77 neglected (unmanaged for 3 to 10 years).

Invasive Plant Species

3.2.15 No invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) were detected within the site.

3.3 Animal Life

Badger

3.3.1 The habitats within the site and within the wider area (to the east of the site) are suitable for use by sheltering and foraging badger. Merseyside BioBank hold no records of badger within a 1 kilometre radius of the site, and no evidence of badger was detected at the site or within 50 metres of the site boundary.

3.3.2 The presence of badger at the site is reasonably discounted and no further survey is required.

Bat Species

Daylight Survey: Trees

3.3.3 Tree 1 (refer to **Figure 2** and **Photo 6**) supports dense Ivy, which may obscure further features suitable for use by roosting bats³. Tree 1 is assessed to be of 'low' suitability for use by roosting bats.

3.3.4 No other trees within the site have been identified as supporting features suitable for use by roosting bats.

Habitat Assessment for Commuting and Foraging Bats

3.3.5 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 (*Pipistrellus pipistrellus*). 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.

Bird Species

3.3.6 Wood pigeon (*Columba palumbus*) and magpie (*Pica pica*) were detected at the site in July 2022.

3.3.7 The scrub and scattered trees at the site are suitable for use by nesting birds. The presence of habitats suitable for use by nesting birds is considered further at **Section 4.4** below.

Reptiles

3.3.8 The habitats within the site do not lie adjacent or in proximity to any habitats favourable for use by reptile species. The site has a history of management and disturbance, and supports a small area of habitat of poor suitability for use by foraging, sheltering and basking reptiles. No habitats suitable for hibernating reptiles are present.

³ It is recognised that Ivy is anecdotally thought to provide potential roosting habitat for low numbers / individual crevice dwelling bat species, however in accordance with *Bat Roosts in Trees - A Guide to Identification and Assessment for Tree-Care and Ecology Professionals* (BTHK, 2018) actual evidence of bat roosting behind Ivy is rare, with only two confirmed roosts known in the UK and suggests Ivy is not typically used by roosting bats.

- 3.3.9 It is not considered reasonably likely that reptiles will have colonised the site from the surrounding land. 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 It is proposed to develop the site to residential properties with associated roads, parking and landscaping.
- 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 The site does not support any habitats that are a primary reason for selection of the statutory or non-statutory designated sites for nature conservation in the wider area. No potential pathways for direct or indirect impacts or likely significant effects on the integrity and conservation objectives of the statutory or non-statutory designated sites for nature conservation in the wider area are identified.
- 4.2.2 It is considered that proposals will have no impact upon designated sites for nature conservation 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.
- 4.3.2 In terms of each habitat's importance in a geographical context⁴, the scrub and scattered broad leaved trees are of local value. Whilst the unmanaged grassland at the site is not species-rich or indicative of a semi-natural habitat, it is considered to be of 'local' value due to its context in the wider area. The amenity grassland and hard standing are not considered to hold any importance in terms of their geographical context.
- 4.3.3 It is recommended that the design proposals seek to incorporate the broad-leaved trees into the site design where possible, and compensate for losses of the trees, scrub and grassland habitat by appropriate landscape planting within the design of the site. Suitable habitats and plants in include within the landscape planting are recommended at **Section 5.5**. Measures for the protection of any retained habitats are presented at **Section 5.2**.

4.4 Protected Species and Other Wildlife

- 4.4.1 Tree 1 supports Ivy cover and is assessed to be of low suitability for use by roosting bats. It is recommended at this stage that the tree is retained and incorporated into the design proposals. If the tree cannot be protected then, in accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016), works must be undertaken in an appropriate manner for the protection of roosting bats. Suitable measures for the protection of roosting bats if works to the tree are required are presented at **Section 5.3**. Habitats within and adjacent to the site are suitable for foraging and commuting

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.

bats. Recommendations relating to the protection of roosting, foraging and commuting bats, and features to enhance habitats for roosting bats at the site are presented at **Section 5.3**.

- 4.4.2 The scrub and broad-leaved trees provide suitable foraging and nesting habitat for the species of birds detected within the site and the wider area via the records search. Consideration of birds (including protection of breeding birds and recommended enhancements for Priority Species) are presented at **Section 5.4**.

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 residential development.

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

- 5.2.1 It is recommended that the broad-leaved trees are, where possible, retained and incorporated into the design of the site.

- 5.2.2 During the construction phase, temporary protective demarcation fencing will be used to protect the trees 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.

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

5.3 Bats

Lighting

- 5.3.1 Paragraph 185(c) in Chapter 15 (conserving and enhancing the natural environment) of the NPPF states that development should:

'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

- 5.3.2 The lighting scheme to be implemented at the developed site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over any retained trees and any landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.

- 5.3.3 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).

Reasonable Avoidance Measures to be observed during Tree Felling

- 5.3.4 It is recommended that the following measures are adopted if the proposed development requires works to Tree 1.
- 5.3.5 The optimal time for tree removal is between September and late February inclusive, as this avoids the bird nesting season.
- 5.3.6 The Ivy must be removed from Tree 1 prior to its felling under the supervision of a licensed bat surveyor. The licensed bat surveyor will then re-assess the tree to determine whether any additional features (previously covered by the Ivy) are present, and determine whether works can continue or if further surveys are required.
- 5.3.7 Additional measures to ensure the safety of bats during any works to the tree will be recommended by the bat surveyor, and may include:
- Careful section-felling of the trees. The sectioning must avoid cutting through or close to any cavities (if any are present); 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 any cavity will be inspected by the licensed bat surveyor and guidance issued; and,
 - All felled sections will be left to lie on the ground for 24 hours before removing Ivy and snedding (removing side branches).
- 5.3.8 If at any time during the works a bat is discovered or suspected all contractors must withdraw from the area and ERAP Ltd (01772 750502) or Natural England must be contacted for further guidance.

Enhancing Habitats for Roosting Bats

- 5.3.9 It is recommended that the development incorporates the installation of one bat access panel at the new buildings.
- 5.3.10 The bat access panel 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 Birds

Protection

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

Enhancing Habitats for Nesting Birds

- 5.4.3 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.
- 5.4.4 The construction of the residential properties provides an opportunity for the installation of additional nesting opportunities for swift to assist their conservation. The installation of two swift nest boxes is recommended at the proposed new buildings.
- 5.4.5 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.
- 5.4.6 Once the development layout has been finalised, an ecologist should advise on appropriate positions for the bird nest boxes. Suitable bird nest boxes are available from NHBS Ecology (www.nhbs.com) or Wild Care (www.wildcare.co.uk) and are presented at **Insert 2**:

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.



Insert 2: Examples of swift nest boxes⁶

5.5 Landscape Planting

- 5.5.1 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.
- 5.5.2 It is recommended that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting. Suitable species are presented at **Table 5.1**, below.

Table 5.1: Suitable Native Species for Tree and Shrub Planting

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

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

⁶ 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

6.0 CONCLUSION

- 6.1 This ecological appraisal has demonstrated that a residential 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 Development at the site will provide an opportunity to secure ecological enhancement for fauna typically associated with residential areas such as breeding birds and roosting bats.

7.0 REFERENCES

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8.0 APPENDIX: TABLES AND FIGURES

8.1 Species Lists

Table 8.1: Plant Species List for Amenity Grassland

Scientific Name	Common Name	DAFOR ¹	Cover
<i>Acer campestre</i>	Field Maple	LA	5%
<i>Acer pseudoplatanus</i>	Sycamore	O	10%
<i>Achillea millefolium</i>	Yarrow	VLA	<1%
<i>Agrostis stolonifera</i>	Creeping Bent	LA	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	LA	<1%
<i>Dactylis glomerata</i>	Cock's-foot	F	15%
<i>Elytrigia repens</i>	Common Couch	LA	<1%
<i>Geranium molle</i>	Dove's-foot Crane's-bill	LA	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	F	15%
<i>Leucanthemum vulgare</i>	Oxeye Daisy	VLF	<1%
<i>Lolium perenne</i>	Perennial Rye-grass	A*	30%
<i>Medicago lupulina</i>	Black Medick	VLA	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	LF	<1%
<i>Poa annua</i>	Annual Meadow-grass	LA	<1%
<i>Poa pratensis</i>	Smooth Meadow-grass	O	5%
<i>Poa trivialis</i>	Rough Meadow-grass	O	5%
<i>Prunus</i> sp.	Cherry species	O	10%
<i>Ranunculus repens</i>	Creeping Buttercup	O	5%
<i>Stellaria media</i>	Common Chickweed	LA	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	LA	<1%
<i>Tilia</i> sp.	Lime species	O	5%
<i>Trifolium repens</i>	White Clover	F	10%

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 Unmanaged Grassland

Scientific Name	Common Name	DAFOR ¹	Cover
	Ornamental species	LA	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	LA	<1%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	LA	<1%
<i>Cirsium arvense</i>	Creeping Thistle	O	5%
<i>Cornus sanguinea</i>	Dogwood	LF	<1%
<i>Cynosurus cristatus</i>	Crested Dog's-tail	LA	2%
<i>Dactylis glomerata</i>	Cock's-foot	O	10%
<i>Epilobium hirsutum</i>	Great Willowherb	LA	<1%
<i>Equisetum arvense</i>	Field Horsetail	LA	5%
<i>Galium aparine</i>	Cleavers	LA	2%
<i>Geranium molle</i>	Dove's-foot Crane's-bill	VLF	<1%
<i>Hedera helix</i>	Ivy	LA	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	O	10%
<i>Lapsana communis</i>	Nipplewort	VLF	<1%
<i>Leucanthemum vulgare</i>	Oxeye Daisy	LA	<1%
<i>Lolium perenne</i>	Perennial Rye-grass	O	15%
<i>Matricaria discoidea</i>	Pineappleweed	VLA	<1%
<i>Medicago lupulina</i>	Black Medick	VLA	<1%
<i>Oenothera biennis</i>	Common Evening-primrose	VLF	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	LF	<1%
<i>Plantago major</i>	Greater Plantain	LF	<1%
<i>Poa annua</i>	Annual Meadow-grass	LA	1%
<i>Poa pratensis</i>	Smooth Meadow-grass	O	5%
<i>Poa trivialis</i>	Rough Meadow-grass	O	5%
<i>Potentilla anserina</i>	Silverweed	VLF	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	O	10%
<i>Rosa arvensis</i>	Field-rose	LF	<1%
<i>Rosa</i> sp.	Rose species	LF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LA	5%
<i>Rumex crispus</i>	Curled Dock	LA	<1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	5%
<i>Sambucus nigra</i>	Elder	LF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	LF	<1%
<i>Senecio squalidus</i>	Oxford Ragwort	LF	<1%
<i>Stachys sylvatica</i>	Hedge Woundwort	VLA	<1%
<i>Stellaria media</i>	Common Chickweed	LA	<1%
<i>Symphoricarpos albus</i>	Snowberry	VLF	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	10%
<i>Trifolium pratense</i>	Red Clover	LF	<1%
<i>Trifolium repens</i>	White Clover	O	5%
<i>Urtica dioica</i>	Common Nettle	O	5%
<i>Vicia sepium</i>	Bush Vetch	LA	<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 Scrub

Scientific Name	Common Name	DAFOR ¹	Cover
<i>Acer campestre</i>	Field Maple	F	10%
<i>Acer pseudoplatanus</i>	Sycamore	F	10%
<i>Betula pendula</i>	Silver Birch	A	10%
<i>Cornus sanguinea</i>	Dogwood	O	5%
<i>Cornus sericea</i>	Red-osier Dogwood	LF	<1%
<i>Crataegus monogyna</i>	Hawthorn	O	10%
<i>Hedera helix</i>	Ivy	F	10%
<i>Ligustrum ovalifolium</i>	Garden Privet	LA	<1%
<i>Lonicera periclymenum</i>	Honeysuckle	LA	<1%
<i>Prunus</i> sp.	Cherry species	F	10%
<i>Quercus robur</i>	Pedunculate Oak	F	10%
<i>Rubus fruticosus</i> agg.	Bramble	O	5%
<i>Salix cinerea</i>	Grey Willow	F	10%
<i>Sambucus nigra</i>	Elder	O	5%
<i>Sorbus aucuparia</i>	Rowan	LA	<1%
<i>Tilia</i> sp.	Lime species	LA	<1%
<i>X Cuprocyparis leylandii</i>	Leyland Cypress	LA	<1%
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

Table 8.4: Photographs



Photo 1: Hard standing



Photo 2: Mown amenity grassland



Photo 3: Unmanaged grassland at the western area of the site



Photo 4: Scrub with unmanaged grassland at the eastern area of the site



Photo 5: Unmanaged scrub



Photo 6: Tree 1

8.3 Figures

Figure 1: Aerial Image of the Site and its Surrounding Habitats

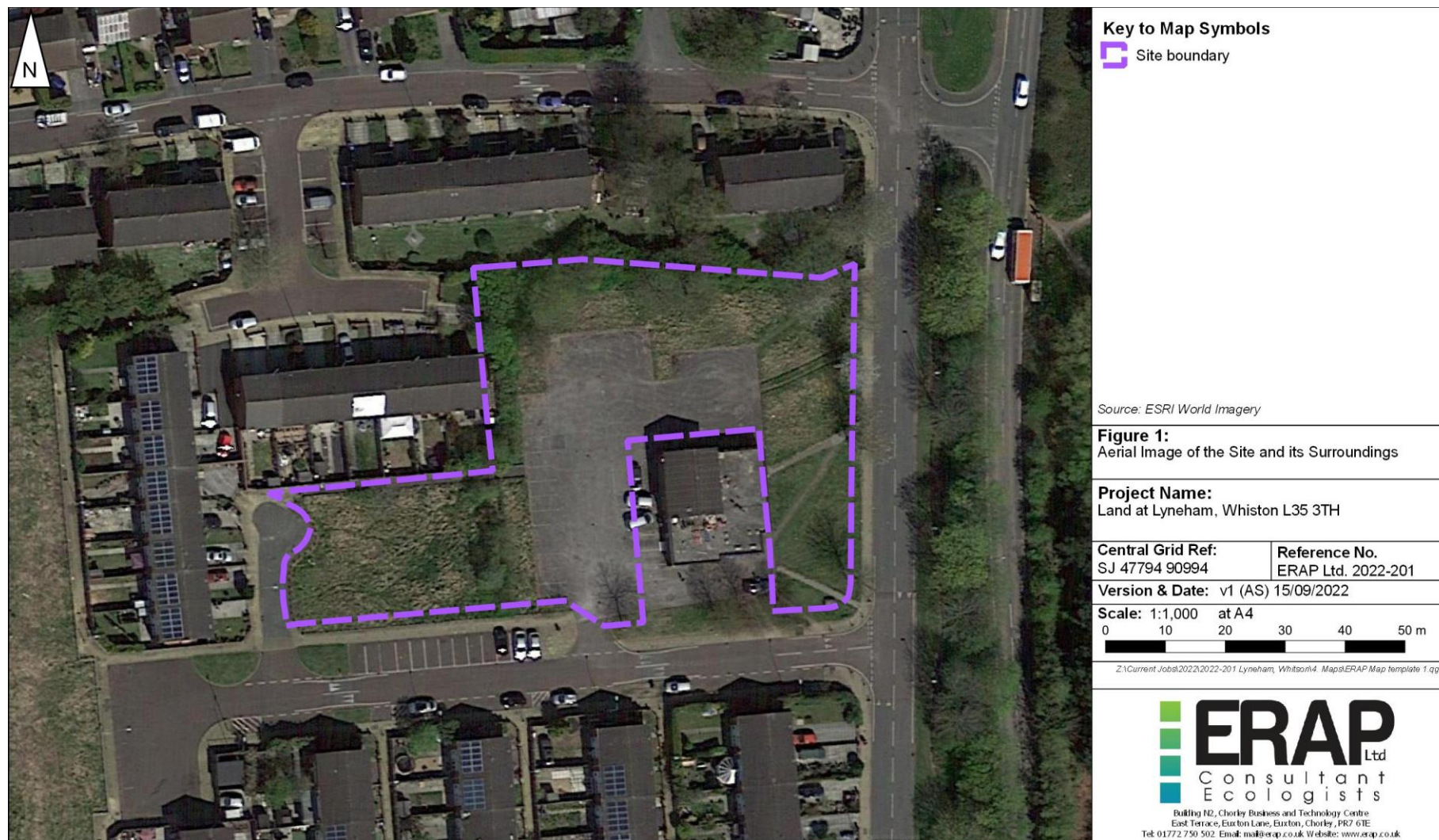


Figure 2: Phase 1 Habitat and Vegetation Map

