

Northenden Campus, Sale Road, M23 0DD

**ECOLOGICAL SURVEY AND ASSESSMENT
(including a Licensed Bat Survey)**

May 2021

[ERAP (Consultant Ecologists) Ltd ref: 2020-272]

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Document Control

Survey Type:	Surveyors¹	Survey Date(s)
Phase 1 Habitat Survey and daylight licensed bat survey	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist; and Catie Haworth B.Sc. (Hons) M.Sc. Graduate Ecologist	8 th March 2021
Badger survey (camera trap)	Catie Haworth B.Sc. (Hons) M.Sc. Graduate Ecologist	15 th April 2021 to 19 th April 2021
Reporting	Personnel	Date
Author	Catie Haworth B.Sc. (Hons) M.Sc. Graduate Ecologist; and Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	30 th April 2021
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Checked	Luke Atherton B.Sc (Hons) M.Sc.	17 th May 2021
Revised and issued	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM	17 th May 2021
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¹ Licence reference number

Bats

Victoria Burrows, Natural England Class Survey Licence (bats, Level 2) Registration Number 2015-10390-CLS-CLS

SUMMARY

Introduction and Scope

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of Northenden Campus, Sale Road, Manchester. The assessment was requested in connection with proposals to redevelop the site to housing.
- ii. This report presents the results of a desktop study and data search, extended Phase 1 Habitat Survey, a daylight licensed bat survey and a badger survey carried out in March and April 2021.
- iii. The scope of survey undertaken is appropriate to identify potential ecological constraints, make recommendations in relation to the site layout, identify any further necessary surveys to progress a site through to a planning decision and identify opportunities for biodiversity associated with the development proposals.

Results of Survey and Assessment

- iv. The approximately 7.3 hectare site comprises an active college campus with 12 buildings, amenity grassland used as a playing field, hard standing car park areas bordered by amenity grassland with ornamental planting and scrub and scattered young planted trees, linear belts of mature and semi-mature trees (at the south-western and western boundaries) and plantation woodland at the northern and eastern margins.
- v. Direct and indirect effects of the proposals on statutory and non-statutory designated sites for nature conservation are reasonably discounted.
- vi. The site contains common and widespread plant species and a high cover of planted and ornamental species. None of the habitats present are representative of semi-natural habitat or are Priority Habitat.
- vii. The mature and semi-mature trees and the linear belts of plantation woodland and scrub are of site value as they provide structural diversity and habitat connectivity across the site to the wider area and are suitable for use by nesting birds and foraging and commuting bats. Retention of as much of these habitats at the site as possible (particularly at the south-western boundary and at the northern and eastern margins) has been accommodated by the proposals plan. The retention of these features aims to satisfy green infrastructure and habitat connectivity requirements. In addition, it is identified that these areas will be enhanced for wildlife and will be brought into active management for nature conservation to mitigate and compensate for the unavoidable loss of trees and scrub elsewhere in the site. Further guidance and recommendations are presented at **Section 5.3** and **5.7**.
- viii. Cotoneaster, an invasive species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), was detected. This does not preclude development but it is an offence to cause the spread of some species of Cotoneaster in the wild. Guidance on the control and management of the Cotoneaster is described in the report (**Section 5.5**).
- ix. Three buildings (B4, B7 and B8) are assessed to be of 'low' suitability for roosting bats; further surveys to determine the use of these buildings by roosting bats are scheduled. All other buildings are assessed to be of 'negligible' suitability.
- x. Four trees are identified to support features with low suitability for use by roosting bats. Consultation of the *Arboricultural Impact Assessment* (Ascerta, 2021) indicates that all four trees (T1, T2, T18 and a G10.1 (a Norway Maple within G10) will be retained by the proposals.
- xi. Habitats at the site are suitable for use by hedgehog (a Priority Species) and provide habitat connectivity across the site; measures to protect species associated with the habitats at the site and to maintain habitat connectivity throughout the developed site are presented at **Sections 5.3** and **5.8**.
- xii. Appropriate survey effort and / or assessment in accordance with standard guidance has been carried out to reasonably discount adverse effects on other relevant protected species, including badger and reptiles.

Recommendations

- xiii. The recommendations in **Section 5.0** identify the mandatory measures and ecological recommendations to be applied to ensure compliance with relevant wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.
- xiv. The results of the bat activity surveys will be provided in a separate addendum report. If a bat roost is detected it is concluded that mitigation in accordance with Natural England guidance is entirely feasible.

Conclusion

- xv. It is concluded that development at the site in accordance with an appropriate site layout that takes into account the ecological recommendations is feasible and acceptable in accordance with the identified ecological considerations and relevant planning policy.
- xvi. The report describes the appropriate and proportionate measures and recommendations that aim to enhance the value of the site for wildlife such as roosting bats, nesting birds and biodiversity associated with residential developments. The recommendations comprise landscape planting, habitat creation and the application of positive habitat management in the long-term to achieve measurable gains for biodiversity and compliance with the NPPF, local planning policy and best practice.

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Miller Homes to carry out an ecological assessment of Northenden Campus, Sale Road M23 0DD (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SJ 8212 9029. 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 demolish the existing campus buildings and redevelop the site to housing with an access at the existing campus access off Moss Hey Drive.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in March and April 2021 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 licensed daylight bat survey and assessment 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 planning application process and / or prior to the commencement of 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: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;
 - Greater Manchester Local Record Centre (GMLRC);
 - Greater Manchester Biodiversity Action Plan (GMBAP);
 - Arboricultural Impact Assessment, Manchester College, Northenden Campus, Ref: P.846.17* (Ascerta, 2021);
 - Ecological Appraisal, Northenden Campus, Sale Road, Northenden, Manchester, M23 0DD* (Ascerta, 2017), hereafter the '2017 ecology report'; and

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. No ponds lie within 500 metres of the site and no watercourses lie within or adjacent to the site, therefore, survey and assessment for great crested newt and riparian fauna (such as water vole and otter) were not required in this instance.

- f. *Badger Survey and Mitigation Strategy. Northenden Campus, Sale Road, Northenden, Manchester, M23 0DD* (Ascerta, 2018).

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Victoria Burrows and Catie Haworth on 8th March 2021. The weather was dry with sunny intervals, a light air (Beaufort scale 1) and 3°C at 07:00 rising to 8°C at 12noon.
- 2.2.2 A habitat and vegetation map was prepared for the site and the immediate surrounding area, 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 aerial imagery, using the Phase 1 Habitat Survey map from the 2017 ecology report (Ascerta, 2017) as a base plan.
- 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 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 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;

- 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).

2.3.5 Owing to the detection of two large mammal holes in the north-western corner of the site (also detected by the 2017 ecology report) the following further survey methods were carried out to determine occupancy:

- a. During the Phase 1 Survey on the 8th March 2021, three sticks were lightly placed vertically against each of the two entrance holes;
- b. A second site visit was made on 15th April 2021 to check on the status of the stuck entrances and to install a Bushnell Trophy Cam HD facing the mammal holes. The camera was set up to take photos when the motion sensors triggered for 24 hours a day whilst in place; and
- c. A third site visit was made on 19th April 2021 to check the status of the stuck entrances and to retrieve the camera and any footage.

Bat Species

Habitat Assessment for Commuting / Foraging Bats

2.3.6 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.

Daylight Survey

Survey Personnel and Guidance

2.3.7 The daylight licensed bat survey and assessment of the features at the site was carried out by Victoria Burrows, Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-10390-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).

- 2.3.8 The survey was 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).

Buildings

- 2.3.9 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.
- 2.3.10 The internal survey involved an examination of the accessible internal areas (including roof voids) to find roosting bats or evidence of previous use of the buildings by bats such as droppings and prey remains.
- 2.3.11 A list of equipment used is detailed at **Table 2.2**, below:

Table 2.2: Survey Equipment used during Daylight Bat Survey

Ladders
LED Lenser P14 torch
Canon Ixus digital camera
8x20 binoculars
Ridgid Micro Inspection Camera Borescope CA-300

- 2.3.12 The suitability of each building 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

- 2.3.13 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.
- 2.3.14 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.

- 2.3.15 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).

Bird Species

- 2.3.16 Bird species observed and heard during the survey were recorded.
- 2.3.17 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.
- 2.3.18 The presence of any sign of nesting birds within (and on) the buildings was searched for during the site visit on 8th March 2021.

Reptile Species

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

Table 2.3: Important Habitat Characteristics for Reptiles

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

Other Wildlife

- 2.3.20 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 small gated garden area surrounding Building 2 (identified by ornamental planting on the Phase 1 Habitat Survey map at **Figure 2**) was not accessible at the time of survey. Examination through the fence confirmed that this fenced off area is used for amenity and recreation, and the plant species comprise fruit and vegetable cultivars and ornamental species. The habitats present in the garden are not representative of semi-natural habitat and the inability to survey or assess the area's ecological value is not considered to be a significant constraint.
- 2.4.2 The interior of the central section of Building 8 is an active sub-station. This section of the building was not accessible during the daylight licensed bat survey. This is not a significant constraint as the building / sub-station is identified for retention by the development proposals.
- 2.4.3 The survey was carried out at a time of year when any bat droppings left around the external elevations and perimeter of a structure from the previous bat activity season are likely to have weathered away; this is taken into consideration in the evaluation and recommendations for further survey.
- 2.4.4 No further survey limitations were experienced.
- 2.4.5 All measurements within this report are approximate only, and have been either measured (using QField) or estimated whilst on site or calculated using internet-based mapping services such as MAGiC and Google Earth.

2.5 Evaluation Methods

- 2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977). 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 have 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, 2019) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2017*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.
- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and/or species listed by the Greater Manchester Biodiversity Action Plans has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site and adjacent land have no statutory designation for nature conservation.
- 3.1.2 Wythenshawe Park which lies on the southern (opposite) side of Wythenshawe Road is identified as a Local Nature Reserve.
- 3.1.3 The site lies within 10 kilometres to Cotteril Clough Site of Special Scientific Interest (SSSI), Brookhey Covert SSSI, Dunham Park SSSI, Rostherne Mere SSSI and overlapping Rostherne Mere Ramsar site, and Lindow Common SSSI. The nearby statutory designated sites are summarised below:

Table 3.1: Statutory Designated Sites within 10 kilometres of the Site

Statutory Designated Site	Distance and Direction from Site (Ordnance Survey Central Grid Reference)	Reasons for Designation
Cotteril Clough SSSI	5.8 kilometres to the south (SJ 80559 83954)	The majority of the site is woodland with associated stream habitat and is the most diverse clough woodland on base rich soils in Greater Manchester. The site is important for woodland birds and supports diverse and rare invertebrate fauna.
Brookheys Covert SSSI	7.6 kilometres to the west (SJ 74210 90364)	The majority of the site comprises well-established Pedunculate Oak-Hazel-Ash woodland with a large number of small pools. The site contains a wide range of woodland and wetland habitats which make it the most diverse example of this woodland type in the county.
Dunham Park SSSI	8 kilometres to the west (SJ 73978 87030)	The majority of Dunham Park is pasture-woodland or park-woodland and has been managed as such since medieval times. The associated dead wood beetle fauna is exceptionally rich with 181 species recorded for this site including rare species (<i>Drophephylla grandiloqua</i>).
Lindow Common SSSI	8.7 kilometres to the south (SJ 83409 81121)	Represents one of the few remaining areas of lowland heath in Cheshire. The site consists of a mixture of wet and dry heath, bog, open water and scattered scrub and woodland.
Rostherne Mere SSSI and overlapping Rostherne Mere Ramsar site	9 kilometres to the south-west (SJ 74418 84200)	The meres and mosses of the northwest midlands form a nationally important series of open water and peatland sites; Rostherne Mere is the deepest and one of the largest meres. The mere is nationally important for birds.

- 3.1.4 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the above sites. The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2021):

Infrastructure: Airports, helipads and other aviation proposals;

Minerals Oil and Gas: Oil and gas exploration / extraction;

Air Pollution: Livestock and poultry units with floorspace greater than 500m², slurry lagoons greater than 4000m²; and

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

- 3.1.5 The proposals do not meet the criteria for which the Local Planning Authority (LPA) must consult Natural England on likely risks on statutory designated sites as a result of development.

Non-statutory Designated Sites for Nature Conservation

- 3.1.6 The site has no non-statutory designation for nature conservation.
- 3.1.7 The site lies within 2 kilometres to 10 Sites of Biological Importance (SBIs), as summarised below.

Table 3.2: Non-statutory Sites within 2 kilometres to the Site

Site of Biological Importance (SBI)	Distance and Direction from Site	Notable Features
Gib Lane Wood which forms part of the Wythenshawe Park Local Nature Reserve (LNR)	400 metres to the south	Woodland
Round Wood	730 metres to the south	Woodland
Nan Nook Wood	830 metres to the west	Woodland
Blackcarr Wood and Baguley Bottoms	1 kilometre to the south	Woodland
Princes Spinney	1.1 kilometres to the south	Woodland
Field by Electricity Sub-station	1.1 kilometres to the north	Calcareous grassland
Chorlton Water Park	1.2 kilometres to the north	Open water and birds
Rose Hill Woods	1.4 kilometres to the south-east	Woodland
Wrengate Wood	1.5 kilometres to the north-east	Woodland and birds
Loonts Lake	1.6 kilometres to the east	Open water

Priority Habitats Inventory and Soilscape Information

- 3.1.8 The Priority Habitats Inventory² was checked via MAGiC map. No Priority Habitats are noted for the site. A belt of wooded vegetation identified as Deciduous Woodland Priority Habitat lies adjacent to the eastern site boundary, some of which lies within the National Forest Inventory as Broadleaved Woodland.
- 3.1.9 In accordance with *Soilscape (England)* as presented on MAGiC Map (National Soil Resources Institute, 2005), the site supports 'naturally wet very acid sandy and loamy soils', and the characteristic semi-natural habitats associated with the soils comprise 'mixed dry and wet lowland heath communities'.

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.

Protected and Notable Species

3.1.10 GMLRC hold no records of protected and notable species for the site.

3.1.11 Records of protected and notable species for a 2 kilometre radius of the site are summarised at **Table 3.3** below.

Table 3.3: Records of Protected Species Within a 2 Kilometre Radius of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Amphibians	Common toad (<i>Bufo bufo</i>): PS.
Birds	Barn owl (<i>Tyto alba</i>): WCAs1. 2 records, the closest of which is 1 kilometre to the east.
	Black redstart (<i>Phoenicurus ochruros</i>): WCAs1 & GMBAP. 2 records, the closest of which is located 1.2 kilometres to the north.
	Common scoter (<i>Melanitta nigra</i>): WCAs1. 1 record located 1.2 kilometres to the north.
	Hobby (<i>Falco subbuteo</i>): WCAs1. 8 records, the closest of which is 1.2 kilometres to the north.
	Kingfisher (<i>Alcedo atthis</i>): WCAs1. 21 records, the closest of which is 1 kilometre to the south.
	Peregrine (<i>Falco peregrinus</i>): WCAs1. 4 records, the closest of which is 1.2 kilometres to the north.
	Scaup (<i>Aythya marila</i>): WCAs1. 2 records, both located 1.2 kilometres to the north.
	PS & GMBAP Twite (<i>Carduelis flavirostris</i>) and willow tit (<i>Poecile montanus</i>)
	PS Bullfinch (<i>Pyrrhula pyrrhula</i>), dunnock (<i>Prunella modularis</i>), grasshopper warbler (<i>Locustella naevia</i>), herring gull (<i>Larus argentatus</i>), house sparrow (<i>Passer domesticus</i>), lapwing (<i>Vanellus vanellus</i>), lesser spotted woodpecker (<i>Dendrocopos minor</i>), linnet (<i>Carduelis cannabina</i>), redpoll (<i>Carduelis flammea</i>), reed bunting (<i>Emberiza schoeniclus</i>), skylark (<i>Alauda arvensis</i>), song thrush (<i>Turdus philomelos</i>), spotted flycatcher (<i>Muscicapa striata</i>), starling (<i>Sturnus vulgaris</i>), tree pipit (<i>Anthus trivialis</i>), and yellow wagtail (<i>Motacilla flava</i>).
	Grey heron (<i>Ardea cineria</i>): Records of heronries in 4 locations, the closest of which is 1.7 kilometres to the north-east. Heronries are nesting sites for herons; all bird nests, eggs and nesting birds are protected under the <i>Wildlife and Countryside Act 1981</i> (as amended).
Flowering plants	PS Marsh Stitchwort (<i>Stellaria palustris</i>)
Invertebrates	Unidentified moth: PS.
Reptiles	Grass snake (<i>Natrix helvetica</i>): WCAs5. 1 record located 1.9 kilometres to the north.
	Slow-worm (<i>Anguis fragilis</i>): WCAs5 & PS. 7 records, all of which are located 1.7 kilometres from the site.
Terrestrial mammals	Badger (<i>Meles meles</i>): PBA92. A minimum of 20 records of setts and 6 records of activity within 2 kilometres; the closest of which is 600 metres from the site. Specific locations to be kept from public record.
	Bat species (Order <i>Chiroptera</i>) EPS, WCAs5 & GMBAP. 1 record of a roost 1.9 kilometres to the north-east of the site, and four records of activity, the closest of which is 1.5 kilometres from the site.
	Common pipistrelle (<i>Pipistrellus pipistrellus</i>) EPS, WCAs5 & GMBAP. 2 records of roosts and more than 60 records of activity, the closest of which is adjacent to the southern site boundary.
	Daubenton's bat (<i>Myotis daubentonii</i>) EPS, WCAs5 & GMBAP. 7 records of activity, the closest of which is 1.2 kilometres to the north.
	European otter (<i>Lutra lutra</i>): EPS, WCAs5 & PS. 2 records, the closest of which is 1 kilometre to the east.
	Hedgehog (<i>Erinaceus europaeus</i>): PS. 17 records, the closest of which is 800 metres to the north-west of the site.
	Myotis species (<i>Myotis</i> sp.) EPS, WCAs5 & GMBAP. 2 records of activity, 1.8 kilometres to the north-east.
	Natterer's Bat (<i>Myotis nattereri</i>): EPS, WCAs5 & GMBAP. 1 record of activity 1.8 kilometres to the north.

Taxon Group	Species Name and Designations ¹ and Notes
	Noctule (<i>Nyctalus noctula</i>): EPS, WCAs5, PS & GMBAP. 25 records of activity, the closest of which is 600 meters to the south-west.
	Pipistrelle species (<i>Pipistrellus</i> sp.): EPS, WCAs5 & GMBAP. 5 records of roosts and 9 records of activity; the closest record is located 500 metres to the north.
	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>): EPS, WCAs5, PS & GMBAP. 22 records of activity, the closest of which located 600 metres to the south-west.
	Whiskered bat (<i>Myotis mystacinus</i>): EPS, WCAs5 & GMBAP. 1 record of activity, located 1 kilometre to the west.
¹ Key to Designation Codes: EPS = European Protected Species under the <i>Conservation of Habitats and Species Regulations 2017</i> . 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). PBA92 = Protection of Badger Act 1992. PS = Priority Species listed under Section 41 of the NERC Act 2006. GMBAP = Species listed on the Greater Manchester Biodiversity Action Plan.	

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

Review of the 2017 Ecology Report

- 3.1.13 The Ecological Appraisal prepared for the site in 2017 (Ascerta, 2017) described the site as:

"The habitats on site comprise buildings, hardstanding, introduced shrubs, tall ruderal vegetation, scrub vegetation, scattered trees, amenity grassland, broad-leaf woodland and species-poor hedgerow. These habitats are considered to have an ecological value of within the zone of influence of the site itself or lower. The site contains no designated or priority habitats."

- 3.1.14 Further surveys for badger activity and bat activity surveys at buildings B4, B7 and B8 were recommended; this report and assessment takes into account the relevant recommendations of the 2017 ecology report.

3.2 Vegetation and Habitats

General Description

- 3.2.1 The approximately 7.3 hectare site is in the urban setting of Northenden, Manchester and comprises an active college campus with 12 buildings, amenity grassland used as a playing field, hard standing car park areas bordered by amenity grassland with ornamental planting and scrub and scattered young planted trees, linear belts of mature and semi-mature trees (at the south-western and western boundaries) and plantation woodland at the northern and eastern margins.
- 3.2.2 The site is demarcated with palisade and garden fencing on all sides. The northern, southern, eastern (at the northern end) and western boundaries meet the rear gardens of adjacent residential properties, and the eastern boundary (at the southern end) meets the Princess Parkway dual carriageway. Wythenshawe Park LNR lies beyond the southern boundary and residential areas lies beyond the northern, eastern and western boundaries.
- 3.2.3 A Phase 1 Habitat Survey map is appended at **Figure 2**. Photographs are appended at **Table 8.1**.

Amenity Grassland and Associated Trees and Ornamental Planting

- 3.2.4 Refer to **Photos 1 to 4**. Amenity grassland occupies 3.44 hectares of the site and comprises a regularly mown playing field of Perennial Rye-grass (*Lolium perenne*) and Annual Meadow-grass (*Poa annua*) and also the mown grassed verges of the car park areas.
- 3.2.5 The south-eastern boundary of the playing field amenity grassland is bordered by established mature and semi-mature trees of Norway Maple (*Acer platanoides*), Sycamore (*Acer pseudoplatanus*), Lime (*Tilia* sp.), Cherry (*Prunus* sp.) and Lombardy Poplar (*Populus nigra*).

- 3.2.6 The grassland in the verges at the car park areas is characterised by constant and abundant moss species, constant and frequent Perennial Rye-grass, frequent and locally abundant Red Fescue (*Festuca rubra*), locally frequent Common Bent (*Agrostis capillaris*), Daisy (*Bellis perennis*), Rough Meadow-grass (*Poa trivialis*) and Annual Meadow-grass and locally frequent and occasional Cock's-foot (*Dactylis glomerata*) with beds of planted bulbs of Daffodil (*Narcissus* sp.), Crocus (*Crocus* sp.) and Snowdrop (*Galanthus* sp.).
- 3.2.7 A plant species list for the amenity grassland (excluding the trees) is appended at **Table 9.1**. The amenity grassland is characteristic of an MG7 *Lolium perenne* ley community of the NVC (Rodwell, 1992).
- 3.2.8 The majority of the trees planted at the car park verges are young specimens of Cherry, Serviceberry (*Amelanchier* sp.), Apple (*Malus* sp.), *Eucalyptus* sp. and Rowan (*Sorbus aucuparia*), Alder (*Alnus* sp.) and Birch (*Betula* sp.). A more established line of mature Lime, Horse Chestnut (*Aesculus hippocastanum*) and Norway Maple extend west to east across the centre of the site and three Oak species are present in the centre of the northern margin of the site.
- 3.2.9 The ornamental planting surrounding the car park is diverse and comprises a diversity of species including Mexican Orange (*Choisya tenata*), Flowering Current (*Ribes sanguineum*), Spindle (*Euonymus* sp.), *Escallonia* sp., Pendulous Sedge (*Carex pendula*), *Hebe* sp., *Acuba* sp. *Pyracantha* sp., *Viburnum davidii*, and ornamental conifer species.
- 3.2.10 A block of limestone colonised by Ivy-leaved Toadflax (*Cymbalaria muralis*) is also present.

Target Note 1: Linear Belt of Plantation Woodland and Scrub at the North-western Boundary

- 3.2.11 Refer to **Photo 5**. The north-western corner of the site is occupied by a linear belt of plantation woodland and scrub planted on a earth bund. The plantation appears unmanaged and is likely to have been planted as a screening bund when the campus was re-developed (c.2004).
- 3.2.12 The vegetation is characterised by constant and frequent Silver Birch (*Betula pendula*), locally frequent Hawthorn (*Crataegus monogyna*) and Hazel (*Corylus avellana*), and frequent Holly (*Ilex aquifolium*) with very locally frequent Field Maple (*Acer campestre*), and very locally abundant Goat Willow (*Salix caprea*). Owing to its relatively young age there is no defined canopy and shrub layer.
- 3.2.13 The shaded ground flora is characterised by constant and frequent Common Nettle (*Urtica dioica*) with very locally frequent Cleavers (*Galium aparine*), frequent and locally abundant Bramble (*Rubus fruticosus* agg.) and locally abundant, constant and frequent Ivy (*Hedera helix*). Woodland herbs are limited to very locally abundant plants of Wood Avens (*Geum urbanum*) throughout the plantation and a very small area of Bluebell (*Hyacinthoides non-scripta*) at the north-western corner of the area.
- 3.2.14 A plant species list for the linear belt of plantation woodland and scrub at the north-western boundary is appended at **Table 9.2**.

Target Note 2: Scrub at Western Boundary

- 3.2.15 Refer to **Photo 6**. Approximately in the centre of the western margin of the site is an area of unmanaged self-seeded scrub that occupies an area of approximately 0.26 hectares and is the site of a former car park area.
- 3.2.16 Gaps in the hard-standing and former verges of the car park are colonised by self-seeded Goat Willow, Butterfly Bush (*Buddleia davidii*) and Silver Birch. Ivy is locally abundant with occasional plants of Herb-Robert (*Geranium robertianum*), Common Mouse-ear (*Cerastium fontanum*), Ash (*Fraxinus excelsior*) saplings, Common Ragwort (*Senecio jacobaea*) and Evening Primrose (*Oenothera biennis*).
- 3.2.17 A plant species list for scrub at the western boundary is appended at **Table 9.3**.

Target Note 3: Linear Belt of Young Plantation Woodland at the Eastern Boundary (north)

- 3.2.18 Refer to **Photo 7**. At the north-eastern corner of the site is a steep sided raised bund of earth with planted trees and shrubs. The dense trees and shrubs are characterised by abundant Silver Birch and Hawthorn

with frequent Hazel, Holly, Pine (*Pinus* sp.) and locally frequent Osier (*Salix viminalis*), Norway Maple, Cherry Laurel (*Prunus laurocerasus*) and Dogwood (*Cornus sanguinea*). The shrub layer is not defined.

3.2.19 Bramble is constant and locally abundant in the herb layer with locally frequent Cock's-foot (*Dactylis glomerata*), and very locally frequent plants of Wood Avens, Cleavers and Creeping Buttercup (*Ranunculus repens*) over otherwise shaded bare soil.

3.2.20 A plant species list is appended at **Table 9.4**.

Target Note 4: Linear Belt of Young Plantation Woodland at the Eastern Boundary (south)

3.2.21 Refer to **Photo 8**. The southern section of the eastern site boundary is occupied by a low earth bund with a linear belt of plantation woodland of young trees and scrub that forms a barrier between the adjacent wooded belt along Princess Parkway (A5103) dual carriageway and the residential properties, and the site.

3.2.22 The vegetation is characterised by abundant Goat Willow and Grey Willow (*Salix cinerea*), frequent and locally abundant Sycamore, locally frequent Field Maple, Norway Maple, Beech (*Fagus sylvatica*), Cherry Laurel and Butterfly-bush with an underscrub of locally frequent Bramble.

3.2.23 A plant species list is appended at **Table 9.5**.

Target Note 5: Sparse Ruderal Vegetation

3.2.24 Refer to **Photo 10**. An area of compacted ground to the east of building B4 is colonised by sparse ruderal herbs characterised by typically early colonising species comprising frequent Red Fescue (*Festuca rubra*), Common Mugwort (*Artemisia vulgaris*), Yorkshire-fog (*Holcus lanatus*), Herb-Robert, Dove's-foot Crane's-bill (*Geranium mole*) and Perforate St. John's-wort (*Hypericum perforatum*). Butterfly Bush and Goat Willow and Grey Willow saplings are frequent.

Other Vegetation and Habitats

3.2.25 The hard standing at the site occupies 1.8 hectares comprising of roads, pathways and the car park and hard standing surrounding the buildings; the hard standing is devoid of vegetation.

3.2.26 Mature trees are present throughout the site and at the northern, eastern and southern boundaries, some of which lie outside the site boundary but overhang into the site. Species include Leyland Cypress (*X Cuprocyparis leylandii*), Lombardy Poplar, Beech, Cherry, Ash (*Fraxinus excelsior*), Maple (*Acer* spp.), Sycamore, Plane (*Platanus occidentalis* x *orientalis* = *P. x hispanica*), Lime and Horse Chestnut.

Invasive Plant Species

3.2.27 No Japanese Knotweed is present at the site.

3.2.28 As illustrated on **Figure 2**, a stand of Wall Cotoneaster was detected at the northern site boundary. Wall Cotoneaster is listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended); it is an offence to spread this species Cotoneaster to spread in the wild. This is considered further at **Section 4.3** below.

3.3 Animal Life

Badger

3.3.1 Two mammal holes of suitable size and shape for use by badger (*Meles meles*), a protected species under the *Protection of Badgers Act 1992*, were detected in the west facing slope of the earth mound at the north-western corner of the site in 2017. The holes are approximately 2.5 metres apart.

3.3.2 Investigations of the holes by Ascerta in 2017 (including the use of a camera trap between 9th and 30th August 2017) did not detect evidence of use by badger (Ascerta, 2018), although updated surveys were recommended.

- 3.3.3 The two holes located in 2017 by Ascerta were re-located in March 2021 refer to **Photos 11** and **12**. No badger hairs were found at the entrances and no other field signs specific to badger (such as pit latrines were found). A smell of fox was present and this extended to the rear of building B4. Trampled pathways extend from the holes through the scrub to the off-site habitats to the north and west are present.
- 3.3.4 A Bushnell Trophy Cam HD camera was installed facing the mammal holes on Thursday 15th April 2021 and left to record until Monday 19th April 2021. The camera was set up to take photos when the motion sensors triggered for 24 hours a day whilst in place. The camera did not record any photographs or evidence of badger. The camera recorded the presence of domestic cats and grey squirrel (*Sciurus carolinensis*) that frequented the area.
- 3.3.5 The sticks propped up against the mammal holes during the Phase 1 survey (8th March 2021) remained in an upright position when observed on the 15th April and 19th April during the set-up and collection of the Bushnell Trophy Cam HD camera, indicating that the holes are not in use.
- 3.3.6 The updated survey of the site in March 2021 and the subsequent site visits in April 2021 did not detect any additional signs of badger activity.
- 3.3.7 Based on the survey evidence collated in 2017 and 2021 it is considered that the presence of an active badger sett at the site is reasonably discounted.

Bat Species

Habitat Assessment for Commuting and Foraging Bats

- 3.3.8 The trees, particularly the mature tree lines, along the site margins are suitable for use by foraging bats, particularly edge feeding species such as common pipistrelle (*Pipistrellus pipistrellus*). In the context of the surrounding urban area the site is assessed to be of moderate suitability for use by foraging bats and is likely to complement the woodland and grassland habitats present to the south of the site at Wythenshawe Park.

Daylight Survey: Buildings

B1 and B2: Main College Buildings

- 3.3.9 Refer to **Photos 13** to **17**. The main college building is a four storey building with elevation walls of cladding and a flat roof. The building is well-sealed and no potential roost features were found. Gaps between the bricks (perps) at the southern elevation above the fire exit door were inspected (refer to **Photo 16**); these gaps are shallow and do not lead to a cavity or a potential roost feature.
- 3.3.10 B1 and B2 are assessed to be of negligible suitability for use by roosting bats.

B3: Metal Containers

- 3.3.11 Refer to **Photo 18**. B3 comprises a row of metal containers and a dilapidated portacabin. No potential roost features were found. B3 is assessed to be of negligible suitability for use by roosting bats.

B4: Bungalow

- 3.3.12 Refer to **Photos 19** to **24**. B4 is a brick bungalow with a pitched concrete tile covered roof. PVC window frames are present and timber signs are attached to the elevation walls; these are tightly sealed and provide no opportunities for bat access.
- 3.3.13 Opportunities for bat access were detected as follows:
- At a damaged / rotten soffit and fascia at the north-western corner of the building; and
 - At sections of lifted lead flashing on the roof.
- 3.3.14 One bat dropping was found adhering to the window on the southern elevation of the bungalow; the dropping is not beneath a potential roost feature (to indicate the presence of a roost) and is likely to have

been left by a bat in flight (and has not weathered owing to the wide soffits present that will protect the elevations from the weather).

3.3.15 Inspection of the roof void confirmed the presence of a fibreglass insulation over the floor of the void and undertile felt beneath the roof tiles. No bats or bat droppings were found in the roof void. The void is illuminated by the vents above spot lights present in the rooms below.

3.3.16 Based on the survey evidence, B4 is assessed to be of low suitability for use by roosting bats. To comply with the survey guidelines further survey is required (refer to **Section 5.2**).

B5, B6 and B10:

3.3.17 Refer to **Photos 25, 26 and 36**. B5, B6 and B10 are pre-fabricated single storey garages with a flat roof and corrugated metal sheeting on the elevation walls. The buildings are well-sealed and no potential roost features were found. B5, B6 and B10 are assessed to be of negligible suitability for use by roosting bats.

B7: Classrooms

3.3.18 Refer to **Photos 27 to 31**. B7 is a single storey brick building with horizontal timber plank cladding on the elevation walls and a hipped concrete tile covered roof with glass skylights. No roof void is present and the underside of the roof tiles is clad with timber sarking.

3.3.19 The horizontal timber cladding is intact and well-sealed; no areas of warping or lifting (which may create a potential roost feature) was detected. Potential roost features were detected where the lead flashing around the skylights is lifted and where the roof tiles have slipped and lifted.

3.3.20 No bat droppings were found around the exterior of the building.

3.3.21 Based on the survey evidence, B7 is assessed to be of low suitability for use by roosting bats. To comply with the survey guidelines further survey is required (refer to **Section 5.2**).

B8: Sub-station

3.3.22 Refer to **Photos 32 to 36**. B8 is a single storey sub-station building with painted brick elevation walls and a hipped concrete tile covered roof. The elevation walls of the building and the soffits around the roof line are well-sealed; no potential roost features were found in these positions.

3.3.23 Potential roost features were detected where the roof tiles have lifted.

3.3.24 Inspection of the internal areas at the ends of the building (the central area was not accessible as this is an active sub-station) confirmed the absence of a roof void and the presence of timber sarking beneath the roof tiles. No bats or evidence of bats was detected in the accessible internal areas.

3.3.25 Based on the survey evidence, B8 is assessed to be of low suitability for use by roosting bats. To comply with the survey guidelines further survey is required (refer to **Section 5.2**).

B9: Metal Cabin

3.3.26 Refer to **Photo 35**. B9 is a metal cabin with no potential roost features. B9 is assessed to be of negligible suitability for use by roosting bats.

B11: Garage

3.3.27 Refer to **Photo 37**. B11 is a pre-fabricated garage with a flat timber board covered roof and timber fascia at the eaves. Inspection of the gap between the timber fascia did not detect any bats or droppings and confirmed that the fascia are wet and rotten.

3.3.28 B11 is assessed to be of negligible suitability for use by roosting bats.

B12: Store

- 3.3.29 Refer to **Photo 38**. B12 is a low (1.5 metres high) store with a flat concrete slab roof and with no potential roost features. B12 is assessed to be of negligible suitability for use by roosting bats.

Trees

- 3.3.30 Five trees (T1 to T5 on **Figure 2**) at the site support features suitable for use by roosting bats, and are summarised below.

Table 3.4: Trees with Features Suitable for use by Roosting Bats

Tree Reference & Species Reference (Photo)	Features	Suitability
T14 Lime (Photo 39)	Semi-mature tree with a knothole on the south side approximately 3 metres from ground level. Inspection at height confirmed that the knothole is blind and is not a potential roost feature.	Low downgraded to negligible following inspection at height.
T1 Oak (Photo 40)	Mature tree with dead wood present.	Low
T2 Oak (Photo 40)	Mature tree with dead wood present.	Low
G10.1 within G10 Norway Maple (Photo 41)	Mature tree with lifted bark	Low
T18 Plane (Photo 42)	Knothole present at the western side at a height of 4 metres from ground level. Further inspection not carried out as the ownership of the tree is not known as the tree is on the site boundary.	Low

- 3.3.31 The presence of the trees with suitability for use by roosting bats is considered further at **Section 4.4**.

Bird Species

- 3.3.32 Birds detected in the site in March 2021 comprise blue tit (*Parus caeruleus*), great tit (*Parus major*) and wren (*Troglodytes troglodytes*), chaffinch (*Fringilla coelebs*) and magpie (*Pica pica*). Signs of nest building by collared dove (*Streptopelia decaocto*) and wood pigeon (*Columba palumbus*) in the mature trees at the site boundary was observed. Three black-headed gull (*Chroicocephalus ridibundus*) were observed on the playing field.
- 3.3.33 No evidence of use of the buildings (including the large flat roofed buildings) by nesting birds was detected (it is recognised that early March is at the start of the nesting season).
- 3.3.34 The trees and shrubs within the site are suitable for use by nesting passerine (i.e. perching) species, including those detected within the site during the survey. This is considered further at **Section 4.4**, below.

Reptiles

- 3.3.35 The regularly disturbed and heavily managed habitats within the site provide poor quality habitat for sheltering, basking and hibernating reptiles.
- 3.3.36 The site is not adjacent or linked to any areas of favourable habitat for reptile species. Records for grass snake and slow-worm are present in the wider area, all of which lie on the opposite side of significant dispersal barriers (i.e. residential areas and main roads). The presence of reptiles within the site is reasonably discounted.

Other Wildlife

- 3.3.37 The habitats at the site (namely the woodland and scrub) provide opportunities for foraging and sheltering hedgehog (a Priority Species).

3.3.38 One fox was detected at the site during the survey in March 2021.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 In accordance with *Northenden, Manchester, SK08* (STEN Architecture Ltd, 2021) hereafter the 'proposals plan', it is proposed to demolish the existing buildings at the site and redevelop the site to housing with an access via the existing campus entrance on Moss Hey Drive.
- 4.1.2 Following the completion of the Phase 1 Habitat Survey ecological guidance, based on the results of the baseline surveys, was provided to the design team. This approach has ensured that the layout has, as much as possible, been ecology-led to achieve a sympathetic scheme which avoids features of ecological interest (where possible) and seeks to minimise and mitigate adverse effects where avoidance is not possible.
- 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 are 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 is sufficiently distant from and has no direct habitat connectivity to the nearby statutory and non-statutory designated sites for nature conservation; as such any direct and indirect impacts on designated sites as a result of the development are reasonably discounted.
- 4.2.2 It is accepted that an increase in houses and therefore residents in the local area will increase recreational pressures on nearby public open spaces such as Wythenshawe Park LNR, however, this large urban park is suitably equipped for visitors and no significant impacts are expected.

4.3 Vegetation and Habitats

- 4.3.1 The site contains common and widespread plant species and a high cover of planted and ornamental species. None of the habitats present are representative of semi-natural habitat or are Priority Habitat. The NVC communities present are typical of the geographical area and conditions present.
- 4.3.2 In terms of the habitat's importance in a geographical context³, the rows of mature and semi-mature trees, particularly at the south-western and western site boundaries, and the planted trees and shrubs at the areas of plantation woodland are considered to be of site value as they provide structural diversity and habitat connectivity across the site to the wider area, and are suitable for use by nesting birds, foraging and commuting bats and hedgehog.
- 4.3.3 Loss of all or a significant proportion of the mature planted trees and the plantation woodland will adversely affect habitat connectivity and opportunities for fauna in the local area. As such, retention of as much of the these linear habitats as possible (particularly at the south-western boundary and at the northern and eastern margins) has been accommodated by the proposals plan. The retention of these features aims to satisfy green infrastructure and habitat connectivity requirements. In addition it is identified that these areas will be enhanced for wildlife and will be brought into active management for nature conservation to mitigate and compensate for the unavoidable loss of trees and scrub elsewhere in the site. Further guidance and recommendations are presented at **Section 5.3** and **5.8**.

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 are of negligible value in the context of the local area.

- 4.3.4 Wall Cotoneaster is present at the northern boundary of the site; guidance on the avoidance of spread of this invasive species in the wild is presented at **Section 5.5**.

4.4 Protected Species and Other Wildlife

Bats

- 4.4.1 Retention of the linear belts of trees and shrubs and the plantation woodland will conserve opportunities for foraging bats at the site. Further measures to avoid an adverse effect on foraging bats by, for example, the inappropriate use of lighting, and to enhance habitats for use by foraging and roosting bats at the site in the presence of the proposals are described at **Section 5.6**.
- 4.4.2 All buildings (with the exception of B8) will be demolished to facilitate the re-development. Buildings B4, B7 and B8 are assessed to be of low suitability for use by roosting bats (all other buildings are of negligible suitability). In accordance with the relevant survey guidelines (Collins, J. (ed), 2016) bat activity surveys are scheduled at buildings B4, B7 and B8 to determine the presence / likely absence of a roost and to characterise any detected roosts. The scope of the scheduled surveys is described at **Section 5.2**.
- 4.4.3 Four trees are identified to support features with low suitability for use by roosting bats. Consultation of the *Arboricultural Impact Assessment* (Ascerta, 2021) indicates that all four trees (T1, T2, T18 and G10.1, a Norway Maple within G10) will be retained by the proposals.

Birds

- 4.4.4 The trees and shrubs within the site and on the site boundaries provide suitable habitat for nesting and foraging passerine (perching) bird species, including Priority Species such as dunnock and song thrush. Some of these habitats are conserved by the proposals plan. Mandatory actions to protect nesting birds during site clearance and measures to provide compensatory and enhanced opportunities for nesting birds, including conservation priorities and Priority Species are recommended at **Section 5.7**.

Other Wildlife

- 4.4.5 Measures to protect wildlife during the construction phase, enhance habitats at the site suitable for wildlife (including hedgehog, a Priority Species) and to maintain habitat connectivity across the site are presented at **Sections 5.3** and **5.8**.
- 4.4.6 Appropriate survey effort and / or assessment in accordance with standard guidance, has been carried out to reasonably discount adverse effects on other relevant protected species namely badger and reptile species.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

- 5.1.1 Ecological guidance, based on the baseline surveys, has been provided to the design team throughout the preparation of the proposals plan and planning application.
- 5.1.2 The recommendations and guidance provided in this section follows 'The Mitigation Hierarchy' (i.e. avoid, mitigate, compensate), as advised by paragraph 175 of the NPPF, to aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the NPPF, relevant local planning policy and best practice.
- 5.1.3 This approach has ensured that the proposals plan has, as much as possible, been ecology-led to achieve a sympathetic scheme which avoids features of ecological interest (where feasible) and seeks to minimise and mitigate adverse effects where avoidance is not possible.
- 5.1.4 The recommendations are appropriate and proportionate. Where possible, opportunities to enhance the ecological interest and habitat connectivity and seek biodiversity gain through appropriate landscape

planting and habitat creation and management have been identified, as required by the NPPF and other relevant planning documents.

5.2 Further Surveys

Bat Activity Survey

- 5.2.1 Buildings B4, B7 and B8 are assessed to be of low suitability for use by roosting bats (all other buildings are of negligible suitability). In accordance with the relevant survey guidelines bat activity surveys are scheduled at buildings B4, B7 and B8 to determine the presence / likely absence of a roost and to characterise any detected roosts.
- 5.2.2 The survey effort will be in accordance with Table 7.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016) and will comprise a minimum of one bat activity survey at all buildings (B4, B7 and B8) assessed to be of low suitability for use by roosting bats.
- 5.2.3 The results of the bat activity surveys will be provided in a separate addendum report. If a bat roost is detected it is concluded that mitigation in accordance with Natural England guidance is entirely feasible.

Updated Pre-works Inspection for Badger

- 5.2.4 Based on the results of the 2017 and 2021 surveys at the site and the fact that the reported records of badger are on the opposite side of the M60 motorway and the River Mersey it is considered that the risk of badger colonising the site is very low. However, in accordance with the *Advice Note on the Lifespan of Ecological Reports and Surveys* (CIEEM, April 2019), if works have not commenced prior to Spring 2023, it is recommended that an updated survey for badger activity is carried out.

5.3 Recommendations in Relation to the Proposed Site Layout and Design

- 5.3.1 The following recommendations were provided to the design team:
 - a. Retain and protect the mature and semi-mature trees at the south-western and western site boundaries;
 - b. Retain as much of the linear areas of plantation woodland at the northern and eastern margins of the site as possible;
 - c. Retain trees T1, T2, T18 and G10.1 identified to support features with low suitability for use by roosting bats and importantly conserve habitat connectivity to these trees;
 - d. Maximise the green infrastructure and green links through the site with the use of landscape planting and accommodation of trees as stepping stones;
 - e. Arrange and align properties to create contiguous gardens;
 - f. Design and implementation of an appropriate and sensitive lighting strategy to avoid any adverse effects on wildlife such as foraging bats, including the avoidance of lighting where not required. 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).
 - g. Landscape planting within the residential development to be composed of native species and species such as fruit trees known to be of value for the attraction of wildlife;
 - h. Incorporation of features for wildlife such as boxes for roosting bats and nesting birds within the developed areas of the site; refer to **Section 5.6** and **5.7**; and
 - i. Ensure the developed areas of the site are permeable to wildlife such as hedgehog (a Priority Species) by the installation of lifted gates and plot boundary fences and / or the accommodation of gaps to permit the passage of wildlife beneath, refer to **Insert 1**.



Insert 1: Wildlife access gaps

5.4 Protection of Existing / Retained Features During Construction and Construction Environment Management Plan (CEMP)

Introduction

- 5.4.1 To inform the site preparation and construction activities it is recommended that the measures described below are accommodated by the Construction Environment Management Plan (CEMP).

Nesting Birds

- 5.4.2 Refer to **Section 5.7** in relation to the protection of nesting birds.

Lighting

- 5.4.3 Paragraph 180, bullet point '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.'

- 5.4.4 Any lighting to be used during the construction phase must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the retained habitats as lighting overspill may deter use by wildlife such as foraging bats.

Protection of Existing Vegetation

- 5.4.5 During the construction phase, temporary protective demarcation fencing will be used to protect the trees, and shrubs to be retained (including, as needed, the trees on the access road at Moss Hey Drive). The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

5.5 Invasive Plant Species

- 5.5.1 It is an offence under the *Wildlife and Countryside Act 1981* (as amended) to cause the spread of some species of Cotoneaster in the wild. The stand of Cotoneaster will be grubbed out by the roots during site clearance and disposed of by burying on site.

5.6 Bats

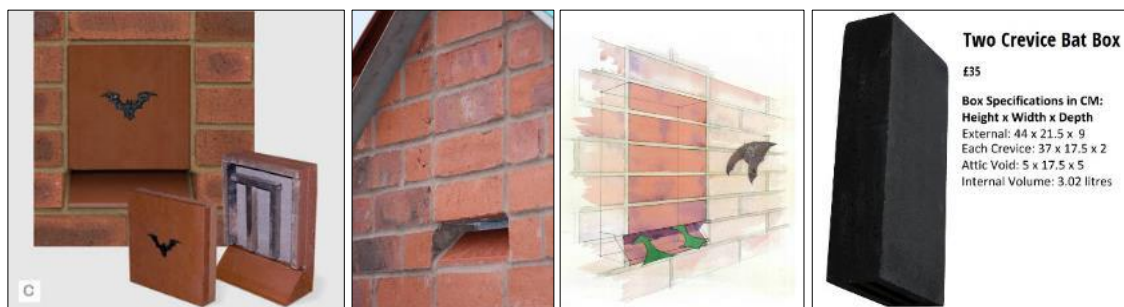
Trees

- 5.6.1 If removal of the trees identified to have suitability for use by roosting bats is required the works must be carried out under an appropriate method statement prepared by a licensed bat surveyor.

Enhancing Habitats for Roosting Bats

- 5.6.2 To enhance the opportunities at the site for roosting bats it is recommended that the development incorporates the installation of at least 20 bat access panels / boxes at the new buildings.

The bat access panels / boxes should be sited at least four metres above ground level, ideally facing or close to areas of landscape planting and / or existing linear features. The access panels / boxes should not be positioned over windows or doorways where bat droppings may become a perceived nuisance. Once the development layout has been finalised, an ecologist will advise on appropriate positions for the bat access panels / boxes.



Insert 2: Examples of integrated bat access panels and an externally mounted box⁴

- 5.6.3 In addition, it is recommended that ten bat boxes are installed on suitable retained mature trees within the site. An ecologist will advise on the siting of the bat boxes. Suitable bat boxes are the Schwegler 1FF, Greenwood Ecohabitat's single or double cavity boxes and Schwegler 1FD, see **Insert 3**, below.



Insert 3: Schwegler 1FF, Greenwood Ecohabitat's single cavity and Schwegler 1FD bat boxes

- 5.6.4 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.

⁴ 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 additional of matching material.

5.7 Birds

Protection

- 5.7.1 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 or building demolition that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.
- 5.7.2 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

- 5.7.3 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).
- 5.7.4 The installation of 15 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 4**.



Insert 4: Schwegler 1SP House Sparrow Nesting Terrace

Starling and Swift

- 5.7.5 Starling and swift nest boxes should be installed at the properties (5 of each box type throughout the development). Starling boxes should be placed at least 3 metres from ground level, and swift boxes should be placed at least 4 metres from the ground beneath the eaves. An ecologist will advise on the siting of boxes once the proposals have been finalised. Examples of suitable boxes are given at **Insert 5**, below.



Insert 5: Vivara Pro WoodStone Starling Nest Box (left) and Vivara Pro Woodstone build-in swift nest box (right)

5.7.6 Bird boxes are available from the NHBS (www.nhbs.com) or Wild Care (www.wildcare.co.uk).

5.8 Enhancement and Management of Retained Habitats and Landscape Planting

Enhancement and Management of the Retained Habitats

5.8.1 It is recommended that the retained belts of trees and the plantation woodland areas 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:

- a. Selective felling of trees to create rides and glades and to enhance the plant species diversity of the herb layer by permitting light to penetrate;
- b. Installation of bird boxes; and
- c. Creation of dead wood habitat piles for colonisation by invertebrates, fungi and small mammals including hedgehog (UK BAP Priority Species).

Landscape Planting

5.8.2 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. The incorporation of trees and shrubs that produce blossom and fruit which will attract insects in the landscape planting is recommended.

5.8.3 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.

5.8.4 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.

6.0 CONCLUSION

6.1 It is concluded that redevelopment at the site in accordance with an appropriate site layout that takes into account the ecological recommendations is feasible and acceptable in accordance with the identified ecological considerations and relevant planning policy.

6.2 The report describes the appropriate and proportionate measures and recommendations that aim to accommodate features at the site for wildlife such as roosting bats, nesting birds and biodiversity associated with residential developments. The recommendations comprise landscape planting, habitat creation and the application of positive habitat management in the long-term to achieve measurable gains for biodiversity and compliance with the NPPF, local planning policy and best practice.

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8.0 APPENDIX 1: PHOTOGRAPHS

Table 8.1: Photographs



Photo 1: Amenity grassland in the south-eastern area of the site with mature and semi-mature trees on the margins



Photo 2: Amenity grassland and young to semi-mature trees at the grassed verges around campus



Photo 3: Amenity grassland at the grassed verges around campus



Photo 4: Amenity grassland at the grassed verges around campus



Photo 5: TN1: Plantation woodland and scrub at north-western corner and boundary of site



Photo 6: TN2: Self-seeded scrub and sparse ruderal vegetation over former car park



Photo 7: TN3: Young planted trees on raised mound at the eastern boundary (north)



Photo 8: TN4: Young planted trees at the eastern boundary (south)



Photo 9: Cluster of trees at the centre of the western site boundary



Photo 10: Sparse ruderal herbs over compacted ground at TN5



Photo 11: Mammal hole 1 at the north-western corner



Photo 12: Mammal hole 2 at the north-western corner

Buildings



Photo 13: Southern elevation of B1



Photo 14: Southern and eastern elevations of B1



Photo 15: Western elevation of B1



Photo 16: Gaps in brick work at southern elevation of B1; not a potential roost feature



Photo 17: Northern elevation of B2



Photo 18: B3



Photo 19: Southern elevation of B4



Photo 20: Rotten fascia at north-western corner of B4



Photo 21: Sealed soffits at gable apex of B4



Photo 22: Rotten timber at eaves of B4



Photo 23: Roof void at B4 (facing east)



Photo 24: Roof void at B4 (facing west)



Photo 25: B5



Photo 26: B6



Photo 27: North-eastern elevation of B7



Photo 28: South-eastern and north-eastern elevation of B7



Photo 29: Skylights and flashing at B7



Photo 30: Skylights and lifted flashing at B7



Photo 31: Interior of B7 to show absence of roof void



Photo 32: South-eastern and north-eastern elevations of B8



Photo 33: Sealed soffits at B8



Photo 34: Interior of part of B8 showing timber sarking beneath roof tiles.



Photo 35: B9



Photo 36: B10



Photo 37: B11



Photo 38: B12

Trees with Potential Roost Features (PRFs)



Photo 39: T14 with blind knothole (negligible)



Photo 40: Trees T1 and T2 (Two Oaks with low suitability)



Photo 41: Tree within G10 (Norway Maple with lifted bark – low suitability)



Photo 42: T18 (Plane with knothole - low suitability)

9.0 APPENDIX 2: TABLES AND FIGURES

Table 9.1: Plant Species List for Amenity Grassland

Scientific Name	Common Name	DAFOR ¹	Cover
<i>Agrostis capillaris</i>	Common Bent	LF	5%
<i>Bellis perennis</i>	Daisy	LF	1%
<i>Cerastium fontanum</i>	Common Mouse-ear	VLF	1%
<i>Crocus</i> sp.	Crocus	O/LF	<1%
<i>Dactylis glomerata</i>	Cock's-foot	LF/O	5%
<i>Festuca rubra</i>	Red Fescue	F/LA	10%
<i>Galanthus</i> sp.	Snowdrop	O/LA	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	F	2%
<i>Luzula campestris</i>	Field Wood-rush	R	<1%
<i>Narcissus pseudonarcissus</i>	Daffodil		
<i>Plantago lanceolata</i>	Ribwort Plantain	O	1%
<i>Poa annua</i>	Annual Meadow-grass	LF	1%
<i>Poa trivialis</i>	Rough Meadow-grass	LF	5%
<i>Prunella vulgaris</i>	Selfheal	O	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	VLA	<1%
<i>Sagina procumbens</i>	Procumbent Pearlwort	VLF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	<1%
<i>Trifolium repens</i>	White Clover	VLA	1%
<i>Tulipa</i> sp.	Tulip species	LF	<1%
<i>Vicia sepium</i>	Bush Vetch	R	<1%
	Moss species	A*	60%

¹Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 9.2: Plant Species List for Target Note 1: Woodland and Scrub at the North-western Boundary

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Acer campestre</i>	Field Maple	VLF	<1%
<i>Betula pendula</i>	Silver Birch	F*	40%
<i>Buddleja davidii</i>	Butterfly-bush	O	<1%
<i>Cornus sanguinea</i>	Dogwood	VLA	<1%
<i>Corylus avellana</i>	Hazel	LF	5%
<i>Crataegus monogyna</i>	Hawthorn	LF	10%
<i>Fagus sylvatica</i>	Beech	O	<1%
<i>Fraxinus excelsior</i>	Ash (sapling)	R	<1%
<i>Ilex aquifolium</i>	Holly	F	10%
<i>Leycesteria formosa</i>	Himalayan Honeysuckle	VLA	<1%
<i>Lonicera periclymenum</i>	Honeysuckle	VLA	<1%
<i>Picea</i> sp.	Spruce	O	<1%
<i>Pinus</i> sp.	Pine	F	10%
<i>Prunus laurocerasus</i>	Cherry Laurel	O	<1%
<i>Salix caprea</i>	Goat Willow	VLA	<1%
<i>Salix viminalis</i>	Osier	LF	1%
<i>Sambucus nigra</i>	Elder	O	<1%
<i>Sorbus aucuparia</i>	Rowan	O	1%
Herb Species			
<i>Galium aparine</i>	Cleavers	VLF*	<1%
<i>Geum urbanum</i>	Wood Avens	VLA	<1%
<i>Hedera helix</i>	Ivy	LA/F*	5%
<i>Hyacinthoides non-scripta</i>	Bluebell	VLF	<1%
<i>Hypericum androsaemum</i>	Tutsan	VLF	<1%
<i>Narcissus pseudonarcissus</i>	Daffodil	R	<1%
<i>Rubus fruticosus</i> agg.	Bramble	F/LA*	20%
<i>Rubus idaeus</i>	Raspberry	VLA	<1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	<1%
<i>Urtica dioica</i>	Common Nettle	F*	5%

¹Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 9.3: Plant Species List for Target Note 2: Self-Seeded Trees and Scrub Over Former Car Park Area

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Betula pendula</i>	Silver Birch	F*	10%
<i>Buddleja davidii</i>	Butterfly-bush	F*	10%
<i>Fraxinus excelsior</i>	Ash (saplings)	O	<1%
<i>Salix caprea</i>	Goat Willow	A*	50%
Herb Species			
<i>Cerastium fontanum</i>	Common Mouse-ear	O	<1%
<i>Dactylis glomerata</i>	Cock's-foot	LF	1%
<i>Festuca rubra</i>	Red Fescue	F	5%
<i>Geranium robertianum</i>	Herb-Robert	O	<1%
<i>Hedera helix</i>	Ivy	LA	5%
<i>Juncus inflexus</i>	Hard Rush	O	<1%
<i>Oenothera biennis</i>	Evening Primrose	O	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LA	10%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Urtica dioica</i>	Common Nettle	VLA	<1%

¹Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 9.4: Plant Species List for Target Note 3: Young Planted Trees at the Eastern Boundary (north)

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Acer platanoides</i>	Norway Maple	LF	5%
<i>Betula pendula</i>	Silver Birch	A*	20%
<i>Buddleja davidii</i>	Butterfly-bush	O	<1%
<i>Cornus sanguinea</i>	Dogwood	LF	5%
<i>Corylus avellana</i>	Hazel	F*	5%
<i>Crataegus monogyna</i>	Hawthorn	A*	30%
<i>Ilex aquifolium</i>	Holly	F*	10%
<i>Picea</i> sp.	Pine	F*	5%
<i>Prunus laurocerasus</i>	Cherry Laurel	LF	1%
<i>Salix caprea</i>	Goat Willow	VLF	<1%
<i>Salix viminalis</i>	Osier	LF	5%
<i>Sambucus nigra</i>	Elder	O	<1%
Herb Species			
<i>Dactylis glomerata</i>	Cock's-foot	LF	1%
<i>Galium aparine</i>	Cleavers	VLF	<1%
<i>Geum urbanum</i>	Wood Avens	VLF	<1%
<i>Hedera helix</i>	Ivy	VLF	<1%
<i>Narcissus pseudonarcissus</i>	Daffodil	O	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	VLF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LA/F*	25%
<i>Taraxacum officinale</i> agg.	Dandelion	O	<1%
<i>Tulipa</i> sp.	Tulip	VLA	<1%

¹Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 9.5: Plant Species List for Target Note 4: Young Planted Trees at the Eastern Boundary (south)

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Acer campestre</i>	Field Maple	LF	5%
<i>Acer platanoides</i>	Norway Maple	LF	5%
<i>Acer pseudoplatanus</i>	Sycamore	F/LA	25%
<i>Betula pendula</i>	Silver Birch	O	<1%
<i>Buddleja davidii</i>	Butterfly-bush	LF	5%
<i>Corylus avellana</i>	Hazel	VLA	<1%
<i>Fagus sylvatica</i>	Beech	LF	2%
<i>Prunus laurocerasus</i>	Cherry Laurel	LF	1%
<i>Salix caprea</i>	Goat Willow	A	50%
<i>Salix cinerea</i>	Grey Willow	F	5%
<i>Sambucus nigra</i>	Elder	O	<1%
<i>Sorbus aucuparia</i>	Rowan	O	<1%
Herb Species			
<i>Geum urbanum</i>	Wood Avens	O	<1%
<i>Hedera hibernica</i>	Atlantic Ivy	LVA	1%
<i>Plantago lanceolata</i>	Ribwort Plantain	R	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	VLF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LF	5%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
¹ Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species			

Figure 1: Aerial to Show Site, Surrounds and Nearby Designated Sites

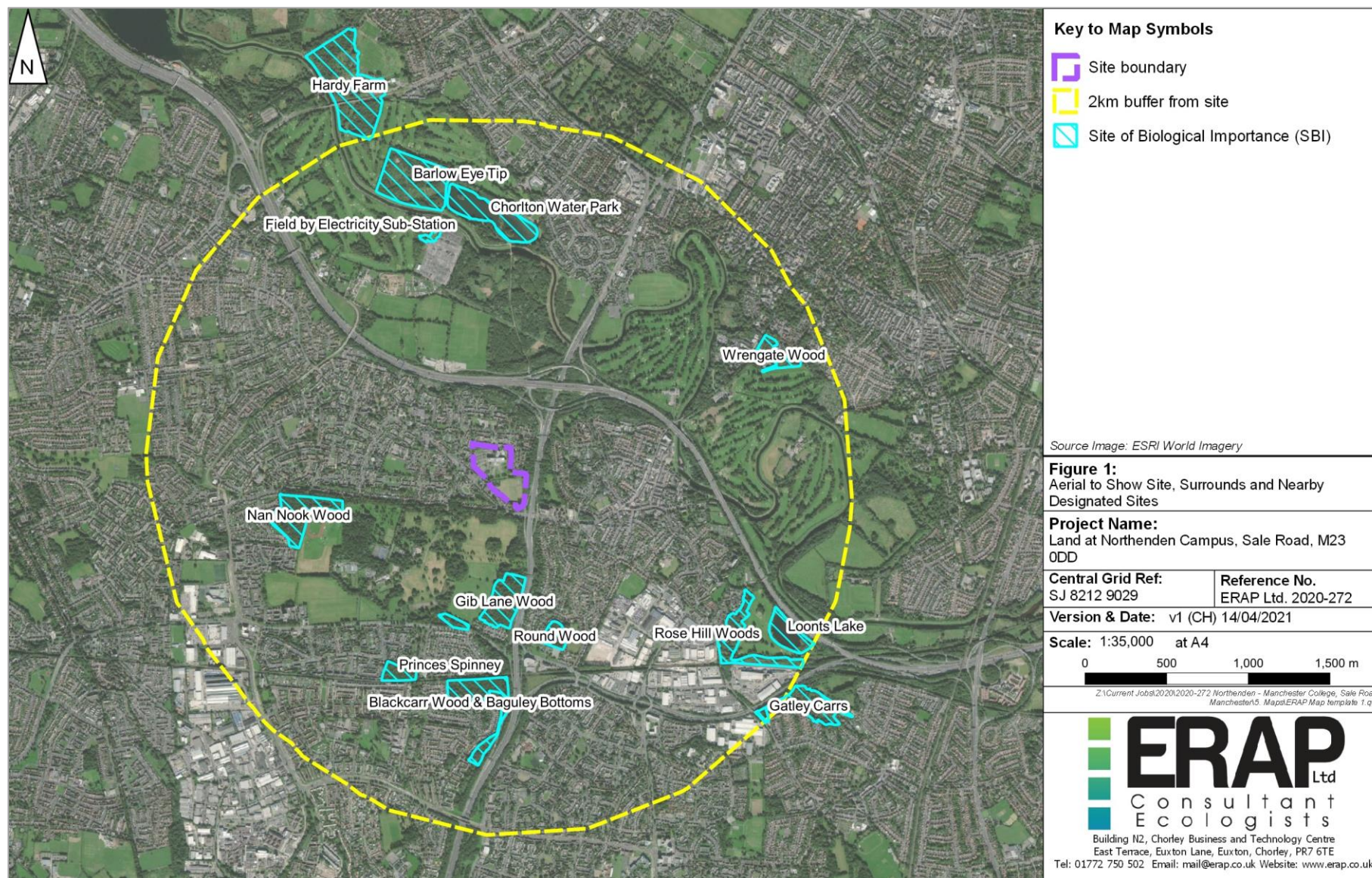


Figure 2: Phase 1 Habitat and Vegetation Map

