

Land at Greene's Road, Whiston, L35 3RF

ECOLOGICAL SURVEY AND ASSESSMENT

September 2021

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SUMMARY

Introduction and Scope

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of the land at Greene's Road, Whiston, L35 3RF. The assessment was requested in connection with proposals to develop the site to residential apartments with associated parking.
- ii. This report presents the results of a desktop study, data search and extended Phase 1 Habitat Survey carried out in August 2021. 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.

Results of Survey and Assessment

- iii. The site comprises hard-standing, colonising vegetation on previously cleared land, a mound and one coniferous tree. Broadleaved trees lie outside the site, adjacent to the southern boundary.
- iv. The proposals will have no adverse effect on statutory designated sites for nature conservation. The site lies adjacent to Stadt Moers Q4 Local Wildlife Site (LWS), a non-statutory designated site for nature conservation; measures to protect the LWS and its associated features of interest are presented at **Section 5.0**. Provided these measures are adhered to it is considered that the proposals will have no adverse effect on the LWS or any other non-statutory site for nature conservation.
- v. The site contains only common and widespread plant species; none of the habitats present are representative of semi-natural habitat. No habitats within the site are Priority Habitat. The tree within the site is of 'site' value in terms of its geographical context as it provides habitat of limited suitability for use by nesting birds but is the only established vegetation within the site. Habitats adjacent to the site are suitable for use by nesting birds and foraging and commuting bats; measures to retain and protect the on-site tree and off-site habitats are presented at **Section 5.2**.
- vi. Montbretia, an invasive species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), was detected. It is an offence to cause the spread of this species in the wild. Guidance on the removal of this species is described at **Section 0**.
- vii. No protected species have been detected within the site.

Recommendations

- viii. 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.
- ix. The proposals will secure an opportunity to implement beneficial measures such as habitat creation that will safeguard habitats for wildlife such as birds and bats, with the aim of providing a net gain in biodiversity in accordance with the principles of the NPPF.

Conclusion

- x. 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 the land at Greene's Road, Whiston, L35 3RF (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SJ 46719 90904. 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 apartments with associated parking.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in August 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 preliminary daylight assessment of the trees within the site for potential roosting features for 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: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;
 - The Liverpool City Region Ecological Network;
 - Merseyside BioBank; 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. In this instance (for example), there are no water bodies or water courses within or adjacent to the site; there has therefore been no requirement to consider water vole (*Arvicola amphibius*) or otter (*Lutra lutra*) as part of this assessment. Additionally, no ponds lie within a 500 metre radius to the site, therefore further consideration for great crested newt (*Triturus cristatus*) is not required.

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 11th August 2021. The weather was cloudy with a light air (Beaufort scale 1) and an air temperature of 21°C.
- 2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area at a scale of 1:500 (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 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).
- 2.2.6 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (as annotated on **Figures 1 and 2**) and extended to accessible land within a radius of 50 metres from the site boundary. Private gardens / land were excluded from the survey.
- 2.3.2 The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: surveys and mitigation for development projects* (Natural England, 2015).
- 2.3.3 The following signs of badger activity were searched for:
- Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
 - Large spoil heaps outside sett entrances;
 - Bedding outside sett entrances;
 - Badger footprints;
 - Badger paths;
 - Latrines;
 - Badger hairs on fences or bushes;
 - Scratching posts; and
 - Signs of digging for food.

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

Bat Species

Daylight Survey: 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).

Habitat Assessment for Commuting / Foraging Bats

- 2.3.8 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

- 2.3.9 Bird species observed and heard during the survey were recorded.
- 2.3.10 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.

Reptile Species

- 2.3.11 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

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 estimated whilst on site or calculated using mapping software (QGIS) or 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) 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*, 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

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site is not a statutory designated site for nature conservation and no statutory designated sites for nature conservation lie within a 2 kilometre radius of the site.
- 3.1.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the overlapping Mersey Estuary SSSI, Special Protection Area (SPA) and Ramsar site, which lies 7.5 kilometres south-west of the site. 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 projects.

Air pollution: Livestock and poultry units with floorspace greater than 500m² and slurry lagoons greater than 4000m².

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 and other incineration / combustion.

Waste: Landfill including inert landfill, non-hazardous landfill and hazardous landfill.

Discharges: Any discharge of water or liquid waste of more than 20m³/day to ground (i.e. to seep away) or to surface water, such as a beck or stream.

Non-statutory Designated Sites for Nature Conservation

- 3.1.3 The site contains no non-statutory designated sites for nature conservation.
- 3.1.4 Stadt Moers Q4 Local Wildlife Site (LWS), a non-statutory designated site for nature conservation, is adjacent to the south-western site boundary and is notified for its large area of semi-improved neutral grassland with areas of scrub and developing broadleaved woodland. The site supports Priority Habitat (deciduous woodland) and plant species of conservation concern, namely English Bluebell (*Hyacinthoides non-scripta*)², regionally important species (English Bluebell and Northern Marsh-orchid (*Dactylorhiza purpurella*)) and an additional five locally rare plant species.
- 3.1.5 An additional 18 non-statutory designated sites for nature conservation (Local Wildlife Sites (LWS)) are located within 2 kilometres of the site. Details of the LWS are presented at **Table 3.1**.

Table 3.1: Non-statutory Designated Sites Within a 2 Kilometre Radius of the Site

LWS	Grid Reference	Distance and Direction from Site	Notes
Stadt Moers Q4	SJ 462 906	Adjacent to south-west corner of the site	A large area of semi-improved neutral grassland with areas of scrub and developing broadleaved woodland.
Stadt Moers Q2 and Visitor Centre	SJ 464 913	475 metres west	A small area of dense woodland with neutral grassland areas re-colonised on bare substrate.

² English Bluebell is a WCAs8 species, i.e. species receives full protection under Schedule 8 of the *Wildlife and Countryside Act 1981* (as amended).

LWS	Grid Reference	Distance and Direction from Site	Notes
Lickers Lane Wood	SJ 472 905	575 metres south-east	A long, narrow broadleaf woodland with a dense canopy and associated neutral grassland.
Stadt Moers, Tushingham	SJ 462 903	640 metres south-west	A large open pond with varied habitats around its edges, from marsh to alkaline grassland to scrub and woodland.
Sandfield Park Woodland	SJ 475 905	720 metres south-east	A mature, predominantly broadleaf woodland with a pond, acidic grassland and scrub.
Stadt Moers Q3	SJ 457 906	760 metres south-west	A mix of grassland, scrub and woodland habitats forming part of the Country Park at Stadt Moers.
Huyton and Prescott Golf Club	SJ 458 918	910 metres north-west	A well-managed golf course with woodland, ponds and wetlands. Prescott Brook forms the eastern boundary with water voles. Plants typical of ancient semi-natural woodland are found in the woodland areas.
Big Wood and Big Water Wood	SJ 469 898	975 metres south-east	A lake that is regularly fished with good mix of aquatic and emergent plants. Broadleaf woodland borders the lake.
The Old Wood, North	SJ 468 897	1.1 kilometres south	A mature broadleaf 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.
Parrens Covert	SJ 479 906	1.2 kilometres south-east	A relict heath with broadleaf woodland and pond and surrounded by deep ditches with water.
The Old Wood, South	SJ 468 894	1.35 kilometres south	A predominantly broadleaf woodland with ditch and marsh habitats. Bracken dominated areas can also be found.
Carr Lane Lake	SJ 460 921	1.4 kilometres north-west	Wetland with a large area of open water. Water is fished.
Strettle Bog	SJ 466 893	1.45 kilometres south	A small area of broadleaf woodland and neutral grassland bisected by Chapel Brook.
Coppice Lane Council Depot	SJ 459 893	1.55 kilometres south-west	A mix of grassland and scrub habitats with areas of damp grassland with rabbit grazing.
Blundells Hills Golf Course	SJ 486 903	1.6 kilometres south-east	A golf course containing a range of habitats including, woodland, scrub, wetlands and hedgerows. These habitats support a high diversity of species and include a number of nationally, regionally and locally rare species.
Daggers Bridge Wood	SJ 466 891	1.6 kilometres south-east	A broadleaf woodland dissected by two brooks, Foxes Bank Brook and Chapel Brook. The confluence of these two streams is in the woodland. Interesting wetland plants enhance this site.
Mine Waste	SJ 471 891	1.7 kilometres south-east	A predominantly wooded site with two ponds on its north-western side. A mix of dry and wet acid grasslands are present around the ponds and to the south.
Land East of Fox's Bank Brook	SJ 479 893	1.75 kilometres south-east	A stream valley with broadleaf woodland on the east bank, possibly of ancient origin.
Huyton Lane Wetland	SJ 448 912	1.9 kilometres north-west	A large area of predominantly neutral marsh with a smaller area of acidic marsh. Other habitats present include: ditch; the River Alt; tree and shrub planting; dry neutral grassland.

Priority Habitats Inventory and Soilscape Information

- 3.1.6 The Priority Habitats Inventory³ was checked via MAGiC map; no Priority Habitats are noted for the site or immediate surrounds on MAGiC. However, the site lies within Network Enhancement Zone 2; Network Expansion Zones are defined as '*land beyond the Network Enhancement Zones with potential for expanding, linking/joining networks across the landscape i.e. conditions such as soils are potentially suitable for habitat creation for the specific habitat in addition to Enhancement Zone 1. Action in this zone to improve connections between existing habitat networks can be targeted here.*' (Edwards, et al., 2020).
- 3.1.7 In accordance with *Soilscape (England)* as presented on MAGiC Map (National Soil Resources Institute, 2005), the site supports '*slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils*', and the characteristic semi-natural habitats associated with the soils comprise '*lowland seasonally wet pastures and woodland*'.

Protected and Notable Species

- 3.1.8 Mersey BioBank does not hold any 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 3.1** below.

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

Taxon Group	Species Name and Designations ¹ and Notes
Amphibians	Common frog (<i>Rana temporaria</i>) WCAs5 sale only. 97 records dated between 1981 and 2021, the closest being 610 metres north-west of the site.
	Common toad (<i>Bufo bufo</i>) WCAs5 sale only, PS. 27 records dated between 1987 and 2021, the closest being 725 metres south-west of the site.
	Great crested newt (<i>Triturus cristatus</i>) EPS, WCAs5, PS & NMBAP. One record dated 2011, 1.7 kilometres west of the site.
	Smooth newt (<i>Lissotriton vulgaris</i>) WCAs5 sale only. 48 records dated between 1990 and 2019m the closest being 510 metres north-west of the site.
Birds	WCAs1 Barn owl (<i>Tyto alba</i>), greylag goose (<i>Anser anser</i>), kingfisher (<i>Alcedo atthis</i>), little ringed plover (<i>Charadrius dubius</i>)
	PS & NMBAP Corn bunting (<i>Emberiza calandra</i>), 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>), starling (<i>Sturnus vulgaris</i>)
	PS Cuckoo (<i>Cuculus canorus</i>), dunnoek (<i>Prunella modularis</i>), grasshopper warbler (<i>Locustella naevia</i>), lesser redpoll (<i>Acanthis cabaret</i>), lesser spotted woodpecker (<i>Dryobates minor</i>), linnet (<i>Linaria cannabina</i>), reed bunting (<i>Emberiza schoeniclus</i>), spotted flycatcher (<i>Muscicapa striata</i>), tree sparrow (<i>Passer montanus</i>), turtle dove (<i>Streptopelia turtur</i>), willow tit (<i>Poecile montanus</i>), yellow wagtail (<i>Motacilla flava</i>), yellowhammer (<i>Emberiza citrinella</i>)
	NMBAP House martin (<i>Delichon urbicum</i>), swift (<i>Apus apus</i>)
Bony fish	European eel (<i>Anguilla Anguilla</i>) PS. 14 records dated between 1987 and 2008, the closest being 925 metres south-east of the site.
Flowering plants	WCAs8 & NMBAP Bluebell (<i>Hyacinthoides non-scripta</i>)
	PS Cornflower (<i>Centaurea cyanus</i>), Grape-hyacinth (<i>Muscari neglectum</i>), Greater Water-parsnip (<i>Sium latifolium</i>), Spreading Hedge-parsley (<i>Torilis arvensis</i>)

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

	NMBAP Smooth Cat's-ear (<i>Hypochaeris glabra</i>)
Insects- butterflies	PS Small heath (<i>Coenonympha pamphilus</i>), wall (<i>Lasiommata megera</i>)
Insects- dragonflies	NMBAP Azure damselfly (<i>Coenagrion puella</i>), blue-tailed damselfly (<i>Ischnura elegans</i>), broad-bodied chaser (<i>Libellula depressa</i>), brown hawkers (<i>Aeshna grandis</i>), common blue damselfly (<i>Enallagma cyathigerum</i>), common darter (<i>Sympetrum striolatum</i>), common hawkers (<i>Aeshna juncea</i>), emerald damselfly (<i>Lestes sponsa</i>), emperor dragonfly (<i>Anax imperator</i>), four-spotted chaser (<i>Libellula quadrimaculata</i>), large red damselfly (<i>Pyrrhosoma nymphula</i>), migrant hawkers (<i>Aeshna mixta</i>), red-eyed damselfly (<i>Erythronia najas</i>), southern hawkers (<i>Aeshna cyanea</i>)
Insects- moths	PS Dark brocade (<i>Mniotype adusta</i>)
Reptiles	Grass snake (<i>Natrix Helvetica</i>) WCAs5 & PS. 2 records both dated 1998, the closest being 575 metres south-west of the site.
Terrestrial mammals	Bat species EPS, WCAs5, PS, NMBAP. 27 records dated between 1983 and 2017, the closest being 735 metres south of the site. Brown long-eared bat (<i>Plecotus auritus</i>) EPS, WCAs5, PS & NMBAP. 5 records dated between 1997 and 2016, the closest being 700 metres south-east of the site. Pipistrelle species (<i>Pipistrellus</i> sp.) EPS, WCAs5, PS & NMBAP. 18 records dated between 1997 and 2019, with the closest record being adjacent to the western site boundary (dated 2014). Common pipistrelle (<i>Pipistrellus pipistrellus</i>) EPS, WCAs5 & NMBAP. 34 records dated between 1991 and 2020, the closest being 65 metres north. Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>) EPS, WCAs5, PS & NMBAP. 28 records dated between 2003 and 2016, the closest being 560 metres west of the site. Nathusius's pipistrelle (<i>Pipistrellus nathusii</i>) EPS, WCAs5 & NMBAP. 2 records dated 2014, both located 2 kilometres north of the site. Daubenton's bat (<i>Myotis daubentonii</i>) EPS, WCAs5 & NMBAP. 6 records dated between 1991 and 2015, the closest being 770 metres south-west of the site. Myotis species (<i>Myotis</i> sp.) EPS, WCAs5, PS & NMBAP. 3 records dated between 2011 and 2014, the closest being 1.1 kilometres south-east of the site. Whiskered bat (<i>Myotis mystacinus</i>) EPS, WCAs5 & NMBAP. One record dated 2014 located 2 kilometres north of the site. Whiskered/Brandt's bat (<i>Myotis mystacinus/brandtii</i>) EPS, WCAs5 & NMBAP. 2 records dated 2003 and 2014, the closest being 1.9 kilometres south of the site. Nyctalus species (<i>Nyctalus</i> sp.) EPS, WCAs5, PS & NMBAP. One record dated 2014 and located 2 kilometres north of the site. Noctule bat (<i>Nyctalus noctule</i>) EPS, WCAs5, PS & NMBAP. 14 records dated between 2003 and 2015, the closest being 630 metres south-west of the site. Badger (<i>Meles meles</i>) PBA92. 4 records more than 900 metres from the site. Brown hare (<i>Lepus europaeus</i>) PS & NMBAP. 6 records dated between 1998 to 2021, the closest being 1.1 kilometres south-west of the site. Feral ferret (<i>Mustela putorius subsp. furo</i>) WCAs5 & PS. One record dated 1993 located 2 kilometres south-west of the site. Hedgehog (<i>Erinaceus europaeus</i>) PS. 40 records dated between 2005 and 2020, the closest being 320 metres south-east of the site. Water vole (<i>Arvicola amphibius</i>) WCAs5, PS & NMBAP. 19 records dated between 1989 and 2010, the closest being 1.05 kilometres south-west of the site.
¹Key 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). 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 0.22 hectare site is located in a residential area and adjacent to Stadt Moers Park and Stadt Moers Q4 LWS. The site comprises an area of previously cleared land with hard-standing, colonising vegetation on previously cleared land and colonising vegetation on a mound with one coniferous tree.
- 3.2.2 The northern site boundary is defined by a wall and fence with Greene's Road lying directly adjacent to the northern site boundary. The eastern site boundary is defined by a wall and a fence and Paradise Lane lies directly adjacent to the eastern site boundary. The southern site boundary is defined by fencing, beyond which, is the car park, amenity grassland and broad-leaved trees associated with Stadt Moers Park. The southern section of the western site boundary is defined by garden fencing and the remainder of the boundary is not defined by a physical feature. Existing residential properties and associated gardens lie beyond the western site boundary.
- 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 8.3**.

Hard-standing

- 3.2.4 The hard-standing in the site does not support any vegetation (**Photos 1 and 2**).

Colonising Vegetation on Previously Cleared Land and Tree

- 3.2.5 The previously cleared land at the site supports colonising vegetation (**Photos 3 and 4**). One coniferous Cedar species (*Cedrus* sp. as identified at the tree report (Dealga's Tree Consultancy Ltd, 2021)) tree (**Photo 5**) is located at the south-western corner of the site.
- 3.2.6 The vegetation is characterised by frequent Common Ragwort (*Senecio jacobaeae*) with occasional Common Mouse-ear (*Cerastium fontanum*), Annual Meadow-grass (*Poa annua*), Bramble (*Rubus fruticosus* agg.), Common Chickweed (*Stellaria media*) and Common Nettle (*Urtica dioica*) and locally abundant Ground-elder (*Aegopodium podagraria*), Creeping Thistle (*Cirsium arvense*), Perennial Rye-grass (*Lolium perenne*), Broad-leaved Dock (*Rumex obtusifolius*) and Dandelion (*Taraxacum officinale* agg.). A plant species list is appended at **Table 8.1**.
- 3.2.7 The colonising vegetation on the previously cleared land is not characteristic of an NVC community.

Colonising Vegetation on Mound

- 3.2.8 A mound lies at the southern area of the site and supports colonising vegetation (**Photo 6**).
- 3.2.9 The vegetation is characterised by frequent Common Nettle with occasional Yarrow (*Achillea millefolium*), Annual Meadow-grass, Bramble, Broad-leaved Dock and Dandelion and locally abundant Rosebay Willowherb (*Chamerion angustifolium*), Perennial Rye-grass and Common Ragwort. A plant species list is appended at **Table 8.2**.
- 3.2.10 The colonising vegetation on the mound is not characteristic of an NVC community.

Invasive Plant Species

- 3.2.11 No Japanese Knotweed is present at the site.
- 3.2.12 As illustrated on **Figure 2**, stands of Montbretia (*Crocsmia x crocosmiiflora*) were detected at the colonising vegetation on the mound. This species is listed on Schedule 9 of the *Wildlife and Countryside*

Act 1981 (as amended); it is an offence to spread or cause its spread in the wild. This is considered further at **Section 4.3** below.

3.3 Animal Life

Badger

- 3.3.1 No badger or signs of badger were detected within the site. No evidence of badger such as setts / holes, prints, hairs, dung pits or snuffle holes were detected at the site or in the immediate surrounding area. Due to the absence of any field signs of badger, the presence of badger at the site is reasonably discounted. No further survey for badger is required.

Bat Species

Daylight Survey: Trees

- 3.3.2 One Cedar species tree lies within the site. The tree was in good condition at the time of the survey and does not support any potential roost features suitable for use by bats; the tree is assessed to be of negligible value for use by roosting bats.
- 3.3.3 Off-site boundary trees lie at the southern boundary, these trees will be retained and protected by the proposed development.

Habitat Assessment for Commuting and Foraging Bats

- 3.3.4 The site has been recently cleared. The colonising vegetation habitats within the site boundary are unlikely to provide an abundance or diversity of invertebrate prey, and are therefore considered to be of negligible suitability for use by foraging bats.
- 3.3.5 The habitats adjacent to the southern and south-western site boundaries are associated with the Stadt Moers Q4 LWS and provide habitats suitable for use by commuting and foraging bats.

Bird Species

- 3.3.6 No bird species were detected in the site during the survey on 11th August 2021.
- 3.3.7 The tree within the site is of limited suitability for use by nesting passerine (i.e. perching) species. The off-site boundary trees are more suitable for use by nesting birds and will be retained and protected by the proposed development at the site. This is considered further at **Section 4.4**.

Reptiles

- 3.3.8 The site has recently been cleared and the habitats within the site are reasonably unlikely to support a large population or a variety of invertebrate prey. The site supports hard-standing and colonising vegetation with one tree; there are no favourable conditions for reptile species within the site boundary. The presence of reptiles within the site is reasonably discounted.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 In accordance with *Greene's Road, Whiston, Proposed Site Plan* (Level 2 Architects, 2021), hereafter the 'proposed layout', it is proposed to develop the site to residential apartments with associated parking.
- 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 is sufficiently distant from nearby statutory designated sites that it is reasonable to conclude that there are no likely risks to statutory designated sites as a result of the proposed development.
- 4.2.2 The site lies adjacent to Stadt Moers Q4 LWS, which is designated for its areas of semi-improved neutral grassland, scrub and developing broadleaved woodland. In the absence of protective measures, the adjacent LWS is likely to be affected by the proposals during the construction and operational phases of the development, for example, increased pollution (light pollution and construction litter and debris). Measures to protect the adjacent LWS and associated habitats from impacts during construction as a result of the proposed development are presented at **Section 5.2**. It is considered that provided these measures are adhered to during the construction and operational phases of the proposed development then adverse impacts to the LWS can be avoided.
- 4.2.3 Owing to the distance between the site and further LWSs in the wider area, the small scale of the proposals, and the absence of hydrological and terrestrial connectivity between the sites and LWSs in the wider area, direct and indirect adverse effects on these non-statutory designated sites for nature conservation as a result of development are reasonably discounted.

4.3 Vegetation and Habitats

- 4.3.1 The site contains only common and widespread plant species. None of the habitats within the site are of significant interest in terms of their plant species composition. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. No Priority Habitats are present in the site.
- 4.3.2 In terms of each habitat's importance in a geographical context⁴, the coniferous tree is of 'site' value only, and the colonising vegetation and hard-standing are of negligible importance.
- 4.3.3 The habitats in the adjacent Stadt Moers Q4 LWS are of 'regional' importance, owing to the presence of deciduous woodland Priority Habitats and protected and notable plant species (refer to **Section 3.1**). Recommendations for the protection of the adjacent LWS and associated habitats are presented at **Section 5.2**.
- 4.3.4 The presence of Montbretia an invasive species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) has been detected within the site. It is considered that the proposals present an opportunity for the management of this species as part of the proposed development. Further guidance is presented at **Section 5.3**.

4.4 Protected Species and Other Wildlife

- 4.4.1 Habitats adjacent to the site are suitable for foraging and commuting bats. Recommendations relating to the features to enhance habitats for roosting bats at the site are presented at **Section 5.4**.
- 4.4.2 The tree within the site is of limited value for use by nesting birds with the off-site boundary trees providing favourable foraging and nesting habitat for bird species detected in the wider area via the records search (including house sparrow, a Priority Species). Consideration of birds (including protection of breeding birds and recommended enhancements for Priority Species) are presented at **Section 5.5** of this report.

⁴ In relation to its geographic context, using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system/Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

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 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 Stadt Moers Q4 LWS and Existing Vegetation / Habitats

Protection of Stadt Moers Q4 LWS and Trees

- 5.2.1 It is recommended that an undeveloped buffer is accommodated between the area to be developed and Stadt Moers Q4 LWS; this can be achieved by the proposed layout. Recommendations for landscape planting within the buffer are presented at **Section 5.6**. It is recommended that a Construction Environment Management Plan (CEMP) is implemented during the construction period to protect the adjacent LWS.
- 5.2.2 During the construction phase, temporary protective demarcation fencing will be used to protect the on-site and the off-site 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).

Lighting

- 5.2.4 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.'*

Construction Phase

- 5.2.5 Any lighting to be used at the site during construction should be directional and screened where possible, this specification should be included within a Construction Environment Management Plan (CEMP), or similar.

Development Lighting Design

- 5.2.6 The lighting scheme to be implemented at the developed site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the off-site retained

boundary trees, the habitats associated with Stadt Moers Country Park, areas of ecological enhancement and any landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.

5.2.7 The lighting scheme will be designed with reference to current guidance, namely:

- a. *Guidance Note 8: Bats and Artificial Lighting in the UK* (Institution of Lighting Professionals & Bat Conservation Trust, 2018); and
- b. *Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

5.3 Invasive Plant Species

5.3.1 It is an offence under the *Wildlife and Countryside Act 1981* (as amended) to cause the spread of Montbretia in the wild. It is concluded that the preparation of an Invasive Species Management Plan is not necessary in this case.

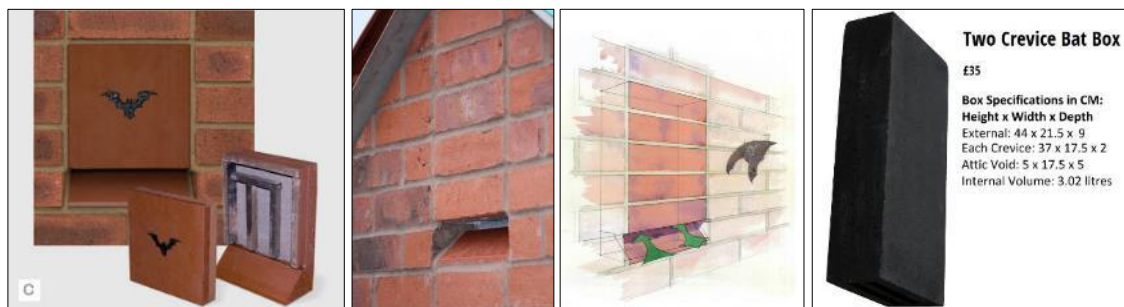
5.3.2 It is recommended that the Montbretia are grubbed out by the roots during site clearance and disposed of either by burying on site or removal to a suitable tip.

5.4 Bats

Enhancing Habitats for Roosting Bats

5.4.1 It is recommended that the development incorporates the installation of two bat access panels at the new buildings.

5.4.2 The bat access panels should be sited at least four 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**:



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

5.5 Birds

Protection

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

⁵ Left to right: IBstock Enclosed Bat Box 'c' (left); Habitat 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 Habitat bat access panels can be supplied unfaced to enable the addition of matching material.

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

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

Enhancing Habitats for Nesting Birds

- 5.5.3 The installation of two house sparrow terrace nest boxes is recommended at the proposed new buildings. The boxes will not be positioned over windows or doorways where droppings may become a nuisance. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. 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 2**:



Insert 2: Schwegler 1SP House Sparrow Nesting Terrace

5.6 Landscape Planting

- 5.6.1 An undeveloped buffer between the proposed built development and the Stadt Moers Q4 LWS can be accommodated in accordance with the proposed layout. It is recommended that the undeveloped buffer incorporates linear landscape planting of native species attractive to invertebrates and bird species (refer to **Table 5.1** for suitable species). The buffer should be managed for biodiversity (for example, seeding with meadow grassland seed mixture and reduced mowing intensity). These recommendations can be achieved by the proposed layout.
- 5.6.2 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.
- 5.6.3 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

- 5.6.4 The understorey and ground cover planting design should be prepared to optimise the attraction of invertebrates such as feeding bumblebees and butterflies. Where possible the use of native species should

be maximised but where necessary non-native species known to be attractive to invertebrates should be used.

- 5.6.5 Planting schemes that include flowering species such as *Viburnum*, *Ceanothus*, *Hebe*, *Lavandula*, *Lonicera*, *Potentilla*, *Rosmarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds.
- 5.6.6 For further plants suitable for the attraction of pollinators please refer to the *Perfect for Pollinators Plant List* (Royal Horticultural Society, 2012). It is recommended that the selection of plant species at the site ensures that a variety of flowering species are available throughout the year.

6.0 CONCLUSION

- 6.1 This ecological assessment has demonstrated that 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 foraging bats and nesting birds associated with the habitats surrounding the site.
- 6.3 Development at the sites will provide an opportunity to secure ecological enhancement for fauna typically associated with residential areas such as breeding birds and roosting bats.

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8.0 APPENDIX: TABLES AND FIGURES

8.1 Tables

Table 8.1: Plant Species List for Colonising Vegetation on Previously Cleared Ground

Scientific Name	Common Name	DAFOR ¹	Cover
Cedrus sp.	Cedar species (as identified by the tree report)	LA	10%
<i>Aegopodium podagraria</i>	Ground-elder	LA	5%
<i>Artemisia vulgaris</i>	Mugwort	VLA	<1%
<i>Buddleja davidii</i>	Butterfly-bush	LF	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	O	10%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	VLA	<1%
<i>Cirsium arvense</i>	Creeping Thistle	LA	5%
<i>Dactylis glomerata</i>	Cock's-foot	LF	<1%
<i>Dryopteris filix-mas</i>	Male-fern	VLF	<1%
<i>Fraxinus excelsior</i>	Ash	LF	<1%
<i>Geranium robertianum</i>	Herb-Robert	VLF	<1%
<i>Hedera helix</i>	Ivy	LF	<1%
<i>Lolium perenne</i>	Perennial Rye-grass	LA	<1%
<i>Medicago lupulina</i>	Black Medick	VLA	<1%
<i>Poa annua</i>	Annual Meadow-grass	O	15%
<i>Rosa arvensis</i>	Field-rose	LF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	O	10%
<i>Rumex acetosa</i>	Common Sorrel	VLA	<1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	LA	5%
<i>Senecio jacobaea</i>	Common Ragwort	F	10%
<i>Stellaria media</i>	Common Chickweed	O	10%
<i>Taraxacum officinale</i> agg.	Dandelion	LA	5%
<i>Urtica dioica</i>	Common Nettle	O	15%

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 the Colonising Vegetation at the Mound

Scientific Name	Common Name	DAFOR ¹	Cover
<i>Achillea millefolium</i>	Yarrow	O	10%
<i>Calystegia sepium</i>	Hedge Bindweed	VLA	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	LA	<1%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	LA	5%
<i>Crocsmia x crocosmiiflora</i>	Montbretia	VLA	<1%
<i>Dryopteris filix-mas</i>	Male-fern	LF	<1%
<i>Geranium robertianum</i>	Herb-Robert	VLA	<1%
<i>Lolium perenne</i>	Perennial Rye-grass	LA	5%
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	VLA	<1%
<i>Poa annua</i>	Annual Meadow-grass	O	10%
<i>Rubus fruticosus</i> agg.	Bramble	O	20%
<i>Rumex acetosa</i>	Common Sorrel	LF	<1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	15%
<i>Senecio jacobaea</i>	Common Ragwort	LA	5%
<i>Stellaria media</i>	Common Chickweed	LA	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	10%
<i>Urtica dioica</i>	Common Nettle	F	20%

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 8.3: Photographs and Figures



Photo 1: Hard-standing



Photo 2: Hard-standing and existing residential property adjacent to western site boundary



Photo 3: Recently cleared ground and colonising vegetation



Photo 4: Recently cleared ground and colonising vegetation



Photo 5: Recently cleared ground with colonising vegetation and coniferous tree



Photo 5: Mound and colonising vegetation

Figure 1: Aerial Image of the Site, Surrounding Habitats and Adjacent Local Wildlife Site



Figure 2: Phase 1 Habitat and Vegetation Map

