



Preliminary Ecological Appraisal

159 Windermere Road, Middleton

Survey Date: 7th February 2025

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1. Introduction

1.1 Report rationale

This report has been prepared at the request of Mr. Barry Winterbottom. Eco 360 were commissioned to undertake a Preliminary Ecological Appraisal on the 159 Windermere Road, Middleton, M24 5NQ (OS Grid Reference: SD 86320 07242). The survey effort involved both a desktop study and field survey. A site visit was carried out by Mr Nathan O'Shea BSc (Hons), Ecologist and the report was written by Mr. Robert Taylor, BSc (Hons), Ecologist.

The main purpose of this assessment was to identify the broad habitats (as stated in the JNCC Phase 1 Handbook) and the flora species present within the survey area, with any further evidence of protected species usage and/or features of potential ecological interest also included. The field survey was carried out on the 7th February 2025.

1.2 Site description and works

The site is located at 159 Windermere Road, Middleton, M24 5NQ, within an urban setting in Greater Manchester. The immediate surroundings comprise a mix of residential and commercial properties, with industrial premises located to the south and west. To the north and east, the area is predominantly residential, consisting of terraced and semi-detached housing with associated gardens. The site is situated within a well-established urban framework with existing infrastructure, including roads and footpaths.

In the wider landscape, the site is positioned approximately 1.5 km southeast of Middleton town centre, which contains a variety of commercial and retail facilities. Woodland and waterbodies are both present within the wider landscape. Green spaces within the local area include Alkrington Woods Local Nature Reserve, located approximately 1.8 km to the southwest, and Rhodes Lodges, a series of ponds and woodland habitats, approximately 1.2 km to the south. These provide semi-natural habitats that may support a range of wildlife.

1.3 Proposals

The proposals comprise the construction of new industrial units with associated parking and access.

Figure 1: An aerial map showing the location of the land proposed for re-development (yellow star) in relation to some of the local landscape.



Figure 2: An aerial map showing the location of the land proposed for re- development (red border around the area) in relation to some of the local landscape.



2. Survey Methodology

2.1 Desktop Survey

A variety of resources were independently consulted to assess the known local records within the nearby area and the importance of the site within the local landscape from an ecological perspective. The resources used were the Local Records Centre, www.naturalengland.org.uk, www.ordnancesurvey.co.uk, Google Maps, Google Earth and Bing Maps. A search of other relevant nature conservation information was made through the use of the Multi-Agency Geographic Information for the Countryside (MAGIC) database.

The local records centre was contacted to provide data on all protected species and designated sites within a 2km radius of the proposed development site.

2.2 Field Survey

A Preliminary Ecological Appraisal (previously referred to as an Extended Phase 1 Habitat Survey) was carried out using the method outlined in the JNCC Handbook for *Phase 1 Habitat Survey: a technique for environmental audit (2010)*. This method aims to map and describe the broad habitat types and notable features present on the surveyed site.

As part of the field survey, the floral species will be identified and noted down. This will consider the dominant, abundant, frequent, occasional and rare (DAFOR) species within each habitat on the survey site. The impacts of the proposed development scheme will be assessed by this report.

Each habitat will be assessed for the presence and/or the potential presence of protected species. The impacts of the proposed scheme of works on all potential protected species on site will be assessed. From this, either remedial action or recommended phase 2 presence/absence surveys will be devised.

Some of the classification codes and colours listed within the JNCC handbook may have been slightly modified for this project.

Habitat Surveys can be carried out at any time of the year, with the optimal time period falling between the months of April through until September. Eco 360 feels confident that the majority of the floral species located on the site were competently identified during the survey effort. In addition to this, Eco 360 feels confident that this report reflects an accurate representation of the sites suitability for protected species to be present.

All sites surveyed by Eco 360 will be run against the relevant Local Wildlife Site Criteria to assess whether or not they meet the required standards.

3. Desktop Survey Results

3.1 Statutory Sites

The ecological data received confirmed the presence of no statutory protected site (e.g. LNR, SSSI, SPA, SAC or Ramsar) within the 1km search radius.

3.2 Non-Statutory Sites

The ecological data received revealed no non-statutory sites within the 1km search radius.

3.3 Woodland Sites

The information provided revealed no ancient natural or semi-natural woodland sites within the 1km search radius.

3.4 Regionally Important Geological Sites (RIGS)

The information provided revealed no RIGS within the 1km search radius.

3.5 Species Records

3.5.1 Amphibians

Within the ecological data search, Great Crested Newt (*Triturus cristatus*) and Common Toad (*Bufo bufo*) were detected within the 1 km search radius.

3.5.2 Birds

Within the ecological data search, numerous notable bird species were detected within the 1 km search radius, including Kingfisher (*Alcedo atthis*), Barn Owl (*Tyto alba*), Little Ringed Plover (*Charadrius dubius*), Peregrine (*Falco peregrinus*), Curlew (*Numenius arquata*), Dunnock (*Prunella modularis*), House Sparrow (*Passer domesticus*), Lapwing (*Vanellus vanellus*), Song Thrush (*Turdus philomelos*), Spotted Flycatcher (*Muscicapa striata*), Willow Tit (*Poecile montanus*), and Yellow Wagtail (*Motacilla flava*).

3.5.3 Crustaceans

Within the ecological data search, no species of protected or notable crustaceans were revealed within the 1 km search radius.

3.5.4 Fish

Within the ecological data search, Brown Trout (*Salmo trutta*) was detected within the 1 km search radius.

3.5.5 Flora

Within the ecological data search, notable floral species detected within the 1 km search radius included Bee Orchid (*Ophrys apifera*) and Greater Water-parsnip (*Sium latifolium*).

3.5.6 Fungi

Within the ecological data search, no fungal species were revealed within the 1 km search radius.

3.5.7 Invertebrates

Within the ecological data search, notable invertebrate species detected within the 1 km search radius included Cinnabar (*Tyria jacobaeae*), White-letter Hairstreak (*Satyrus w-album*), Buff Ermine (*Spilosoma luteum*), Dot Moth (*Melanchra persicariae*), Latticed Heath (*Chiasmia clathrata*), Grey Dagger (*Acronicta psi*), and Small Phoenix (*Ecliptopera silaceata*).

3.5.8 Mammals

Within the ecological data search, several notable mammal species were detected within the 1 km search radius, including Otter (*Lutra lutra*), Brown Hare (*Lepus europaeus*), and Hedgehog (*Erinaceus europaeus*). In addition, several bat species were recorded, including Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Nathusius's Pipistrelle (*Pipistrellus nathusii*), Brown Long-eared Bat (*Plecotus auritus*), Daubenton's Bat (*Myotis daubentonii*), Whiskered Bat (*Myotis mystacinus*), Noctule Bat (*Nyctalus noctula*), and other *Myotis* species.

3.5.9 Molluscs

Within the ecological data search, no mollusc species were revealed within the 1 km search radius.

3.5.10 Reptiles

Within the ecological data search, Grass Snake (*Natrix helvetica*) was detected within the 1 km search radius.

4. Field Survey

4.1 Habitats

The preliminary ecological appraisal revealed multiple habitats on site. The phase 1 habitat map, habitat codes and target notes for the site are located within **Appendix C**. The following habitats were recorded on site (in habitat code order):

4.1.1 Developed Land; sealed surface (u1c)

The majority of the site comprises hardstanding surfaces typical of previously developed land, including areas of gravel, tarmac, and bare ground. Vegetation is minimal, restricted to occasional mosses and ephemeral species growing in cracks or along the site margins. This habitat offers negligible ecological value and the area is subject to some human disturbance.

4.1.2 Mixed scrub (h3d)

Patches of scrub are scattered along the boundaries and in corners of the site, dominated by dense bramble (*Rubus fruticosus* agg.) with interspersed ruderal species such as nettle (*Urtica dioica*) and willowherb (*Epilobium* sp.). Occasional woody shrubs are present. This habitat provides moderate shelter and potential foraging for small mammals and nesting birds but is isolated from more extensive habitats. The scrub is to be removed as part of the proposed development.

4.2 Species

The preliminary ecological appraisal survey revealed that the habitats that have been outlined for the proposed development area do contain protected species potential. The following assessment has also taken into account the adjacent habitats and connectivity to the wider landscape for all protected and rare species.

4.2.1 Amphibians (including Great Crested Newts)

The site itself does not have the potential to support amphibians. This is due to a lack of suitable habitat on-site and a lack of connectivity to any suitable habitat. No further measures are required concerning amphibians.

4.2.2 Badgers

During the field survey, no evidence of badger (*Meles meles*) was found within the site or surrounding area. The habitat is largely sub-optimal for sett creation and foraging due to the dominance of hardstanding and scattered scrub. No further measures are required regarding badgers.

4.2.3 Bats

No buildings are present on site, and therefore there is no potential for roosting bats in built structures. However, areas of dense scrub and limited lighting disturbance may provide some value as foraging and commuting habitat for local bat populations. The site is situated within a predominantly urban context with some limited habitat connectivity. As such, bat activity is expected to be low.

4.2.4 Birds

The site supports habitats such as scrub, scattered trees, and unmanaged grassland, all of which offer suitable opportunities for nesting birds. No active nests were observed during the survey; however, the structural vegetation present has potential to support common breeding bird species during the nesting season.

4.2.5 Hazel Dormouse

The habitats on site are not suitable for supporting any hazel dormouse (*Muscardinius avellanarius*) specimens.

4.2.6 Hedgehogs

The habitats on site contain features that can support the local hedgehog (*Erinaceus europaeus*) populations. Further recommendations are apparent for this species (please see section 5.3).

4.2.7 Invertebrates

The sites located on the proposed re-development area are considered to contain common species only. Therefore, no detrimental impacts from the works will be incurred. The site is not deemed to be of high value to invertebrates. Therefore, no further assessment is required.

4.2.8 Reptiles

The habitats on-site include areas of scrub and unmanaged grassland which could potentially provide limited foraging and shelter opportunities for widespread reptile species. However, the site is largely isolated by surrounding residential development, and there are no confirmed records or anecdotal evidence of reptiles on-site. As such, the potential for reptiles is considered to be low.

4.2.9 Water Voles & Otters

The site lacks any watercourses or aquatic habitats suitable for water voles (*Arvicola amphibius*), and there is no connectivity to nearby suitable habitat. No evidence of otters (*Lutra lutra*) was recorded, and the absence of water features means the site is unsuitable for this species. The potential for both species is considered negligible.

4.2.10 White-clawed crayfish

There are no aquatic features on-site suitable to support white-clawed crayfish (*Austropotamobius pallipes*). No further assessment is required.

4.3 **Potential impacts of the works**

Based upon the results from the desktop survey, field survey and using a degree of academic supposition, the uncompensated development impacts have been summarised as follows:

- Amphibians – **Negligible**
- Badgers – **Negligible**
- Bats – **Low**
- Birds – **Moderate**
- Flora – **Negligible**
- Hazel Dormouse – **Negligible**
- Hedgehogs - **Moderate**
- Invertebrates – **Negligible**
- Reptiles – **Low**
- Water Voles/Otters - **Negligible**
- White-clawed crayfish – **Negligible**

5. Recommendations

5.1 Designated Sites

No designated sites that were revealed by the ecological data search provided fell on the proposed development site itself. Therefore, the proposed development will have no impact upon any local designated sites as the works are due to remain within the site boundary.

5.2 Habitats

No habitats of conservation concern were located on the site itself. Therefore, the proposed scheme of works will not impact upon any rare or valuable habitats.

5.3 Species

The site was found to contain the potential to support protected and/or rare species. Therefore, the following recommendations are required for the site:

5.3.1 Birds

As a precautionary measure, it is recommended that any tree or grassland removal is undertaken outside of the bird breeding season (the bird breeding season runs from March to August, inclusive). If these features are required to be altered during the bird breeding season, then a further inspection by a suitably qualified ecologist is required no more than 24 hours before this process commences is necessary. This is to ensure that no active nest site is illegally destroyed, due to the protection afforded to all active bird nests under the Wildlife and Countryside Act 1981. If an active nest is found by a site inspection, an exclusion zone around the nest will be necessary to preserve this feature until the chicks have fledged the nest.

5.3.2 Hedgehogs

As a purely precautionary measure, it is recommended that provisions are incorporated during the construction phase. This will be to create provisions for hedgehogs to escape in the form of creating slopes or the inclusion of ramps at the end of each working day from all trenches dug into the ground. Additionally, any pipework left on site that is greater than 150mm in diameter will need to be planked off. Should this information be strictly adhered to, then the development works will not negatively impact on the local mammal populations.

5.4 Biodiversity Net Gain

Biodiversity Net Gain needs to be ensured within the scheme of works and this will be devised once the desktop study has arrived. This will need to ensure a 10% net gain occurs at the site. Should some of the measures in 5.5 be incorporated, then a 10% net gain is highly likely.

5.5 Site Enhancements

For the proposed development works, the following site enhancement measures could be incorporated into the site post-development. These measures are optional but are bespoke to the site surveyed for the enhancement of biodiversity.

5.5.1 Flora

At present, the site is not considered to have a diverse range of flora. Therefore, it is recommended that a small section of the site is converted into a 'wild meadow' that uses native wildflower seed mixes. A variety of these can be found on the Meadowmania or Wildflower Turf webpages.

5.5.2 Invertebrates

At present, the site is not considered to be of any importance to local invertebrate populations. In conjunction with the wildflower planting, it is recommended that one Bumblebee Box are incorporated into the scheme, along with one Bug Hotel. This will enhance the site for the local invertebrate populations, which will thus attract species further up in the trophic level.

5.5.3 Hedgehogs

The site could be enhanced for the local Hedgehog (*Erinaceus europaeus*) population by installing Eco Hedgehog Nest Boxes around this area. This will create more opportunities for hedgehogs within the local landscape.

5.5.4 Reptiles

As reptiles could be found within the area, the site could be enhanced for the local populations. This should come in the form of rough grassland and scrubland sections. Creating this habitat would enable connectivity to nearby reptile habitats. These should have interfaces between the scrubland and grassland as these transitional zones create a range of microhabitats and microclimates that are favoured by reptile species.

This habitat section will need to have the natural succession ceased to ensure that the habitats remain suitable to the local reptile populations. On this site, this should come in the form of mowing/strimming the habitats on site. This should be done over the winter months when reptiles will be hibernating. Mowing of the grassland should be undertaken every twelve months in November and February of every year. The cuttings from this mowing regime should be left on site in the least disturbed locations to act as potential grass snake (*Natrix natrix*) egg-laying features. These should measure at least 1m³ (the larger the better) and be situated in a sunny location.

Half of the scrubland habitat (and any natural regeneration of trees) should be cut back between mid-September and February once every two years, with the remaining half of this habitat being cut back the intersecting two years (cutting should continue on a rotational basis between these sections). If any reptiles are found during this management process, then Eco 360 should be contacted immediately to

deal with the impacts. It is imperative that the cutting regime is adhered to, as any deviation from the months may result in the direct killing of reptiles.

In this section of habitat, it is recommended that log piles and brash piles are left in scattered locations. These create cover, add structure to the habitats and enhance the availability of food to the reptiles. For this project, a minimum of two of these would be necessary.

Hibernacula should also be scattered though the aforementioned habitats. The hibernacula can be made of cut timber, brash, inert hardcore, bricks, rubble, rocks, tree roots and building rubble. A minimum of one of these is advised for this project.

The key design features include:

- A sunny location.
- A well-drained section of the site.
- One of the long sides faces south.
- Access for reptiles through openings.
- Location within suitable habitat (rough grassland and scrubland in this scenario).
- Minimal anthropogenic disturbance.
- Measure at least 4m length x 2m width x 1m height, but the larger the better.

Incorporating the above site enhancement features would benefit the local herptile populations and improve their conservation status within the area.

6. References

- Bat Conservation Trust (2023). Bat Surveys – Good Practice Guidelines. 4th Edition. Bat Conservation Trust: London.
- Berthinussen, A. & Altringham, J.D. (2012). The effect of a major road on bat activity and diversity. *Journal of Applied Ecology* 49: p.p. 82–89.
- Bickmore, C. J. (2002). *Hedgerow Survey Handbook*. London: DEFRA
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011).
- Circular 06/05 Biodiversity and Geological Conservation – Statutory Obligations and Their Impact System (2005).
- The Conservation of Habitats and Species Regulations 2017 (Amendment). SI 2017/1012.
- The Conservation (Natural Habitats, etc.) (Amendment) Regulations 2007. SI 2007/1843, London: HMSO.
- Countryside and Rights of Way Act 2000 (c.37). London: HMSO.
- Defra (2007a) *Securing a Healthy Natural Environment: an action plan for embedding an ecosystems approach*. PB12853. Defra London.
- Defra (2007b) *An Introductory Guide to Valuing Ecosystems Services*. PB12852. Defra London.
- Dietz, C., von Helversen, O. & Nill, D. (2009) *Bats of Britain, Europe and Northwest Africa*. London: A. C. Black.
- Hutson, A.M., Spitzenberger, F., Aulagnier, S., Coroiu, I., Karataş, A., Juste, J., Paunovic, M., Palmeirim, J. & Benda, P. (2008) *Pipistrellus pipistrellus*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1.
- Institute of Ecology and Environmental Management, Professional Guidance Series.
- Institute of Ecology and Environmental Management (2006), *Guidelines for Ecological Impact Assessment in the United Kingdom*.
- Institute of Environmental Assessment (1995). *Guidance for Baseline Ecological Assessment*.
- Joint Nature Conservation Committee (2005). *The Marine Habitat Classification for Britain and Ireland, Version 04*.
- Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a technique for environmental audit*.
- Millennium Ecosystem Assessment (2005).
- National Planning Policy Framework (2018).
- The natural choice: securing the value of nature (2011) (Natural Environment White Paper).
- Natural Environment and Rural Communities (NERC) Act 2006.
- RSPB (2002). *The Population Status of Birds in the UK*.
- RSBP (2009). *Birds of Conservation Concern 3*.
- Rydell J & Racey, P A (1993) *Street lamps and the feeding ecology of insectivorous bats*. Recent Advances in Bat Biology, Zool Soc Lond Symposium abstracts.
- UK Biodiversity Action Plan (2007). *UK List of Priority Species*. Joint Nature Conservation Committee.
- Wildlife and Countryside Act 1981 (and amendments) (c.69). London: HMSO.

7. Appendices

Appendix A: Site Plans

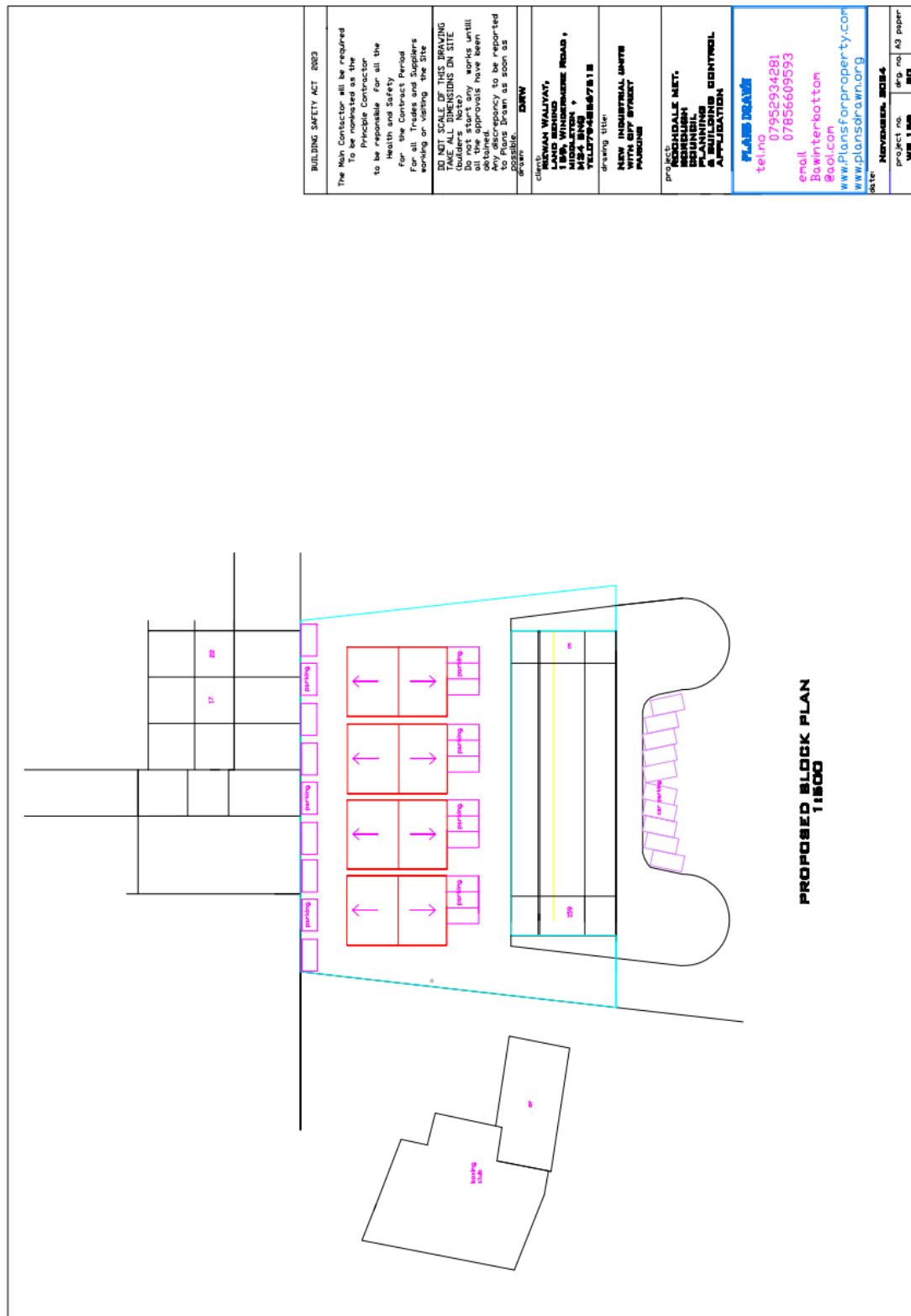
Appendix B: Phase 1 Habitat Map

Appendix C: Site Photographs

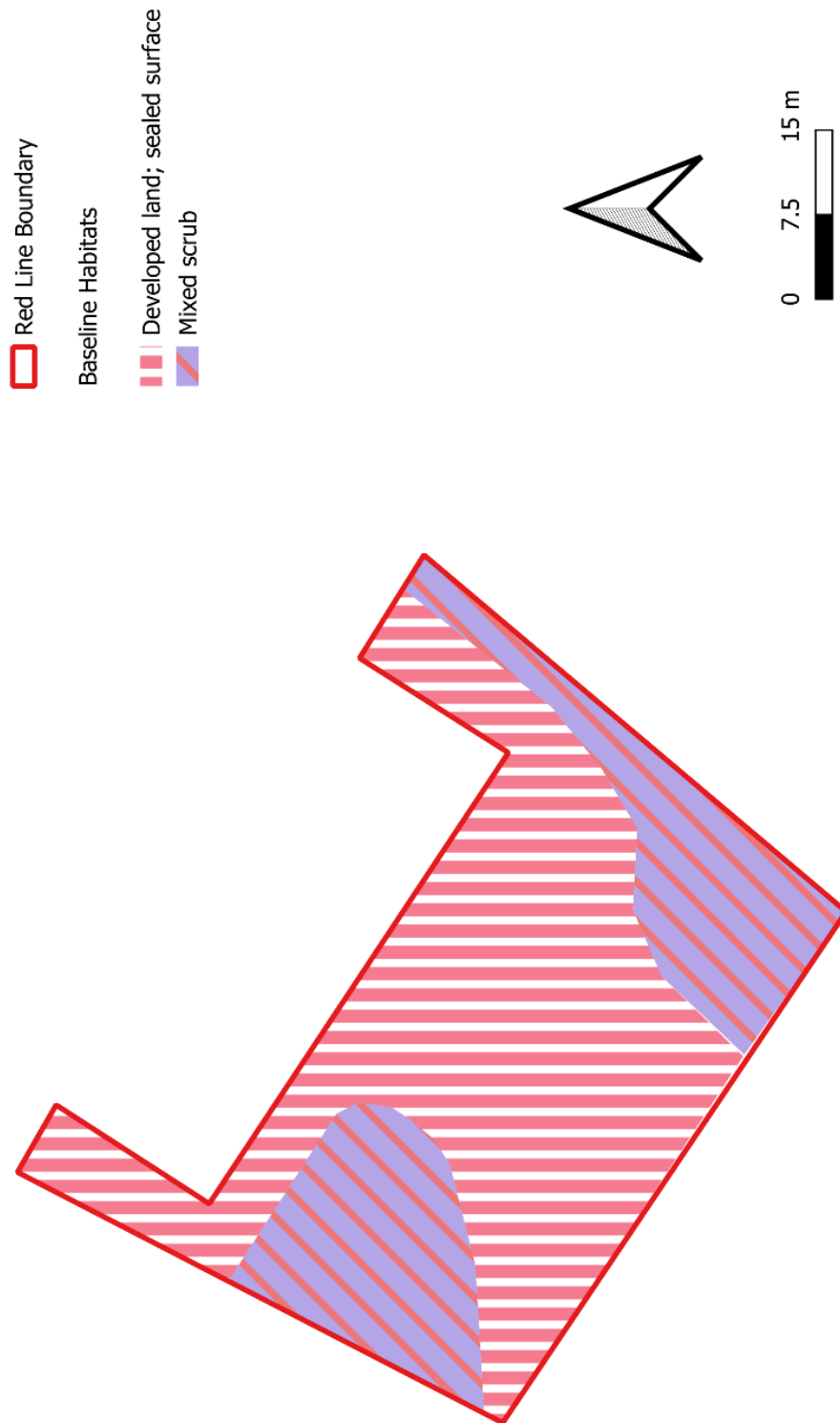
Appendix D: Biodiversity Legislation and Policy

Appendix E: Bats and Artificial Light

Appendix A: Site Plans



Appendix B: Phase 1 Habitat Map



Appendix C: Site Photographs



Photo 1: Overview of the hard-standing ground on site.



Photo 2: Scrub habitat on the western part of the site.



Photo 3: Scrub habitat on the eastern part of the site.



Photo 4: Access to the site on the eastern side.



Photo 5: Access to the site on the western side.



Photo 6: Overview of hardstanding areas.



Photo 7: Overview of the site and adjacent buildings.



Photo 8: Site boundary.



Photo 9: Scrub habitat on site.



Photo 10: Hardstanding areas.



Photo 11: Scrub habitat on site.



Photo 12: Scrub habitat on site.

Appendix D: Biodiversity Legislation and Policy

General Legislation and Policy:

The framework of legislation and policy which underpins nature conservation in England. This is a material consideration in the planning process in England.

Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2010 as amended)

The Conservation of Habitats and Species Regulations 2017 consolidate and update the Conservation Regulations 1994 and the conservation of habitats and species regulations 2010 (and all their amendments). The Conservation of Habitats and Species Regulations 2017 are the principal means by which the EEC Council Directive 92/43 (The Habitats Directive) as amended is transposed into English and Welsh law.

The Conservation of Habitats and Species Regulations 2017 place duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

The Conservation of Habitats and Species Regulations 2017 also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively. Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations.

The Wildlife and Countryside Act (WCA) 1981 (As amended)

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Conservation (Natural Habitats. & c.) Regulations 1994 (as amended), offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

The Countryside and Rights of Way (CROW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs.

The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists supersede Section 74 of the CRoW Act 2000. These species and habitats are a material consideration in the planning process.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

UK Biodiversity Action Plan

The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, is a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contains a list of priority habitats and species of conservation concern in the UK, and outlines biodiversity initiatives designed to enhance their conservation status. Lists of Broad and Local habitats are also included. The priority habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

The UKBAP requires that conservation of biodiversity is addressed at a County level through the production of Local BAPs. These are complementary to the UKBAP, however are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. UKBAP and Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Planning Policy (England) and National Planning Policy Framework

In early 2012, the National Planning Policy Framework (NPPF) replaced much previous planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. The government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System, which accompanied PPS9, still remains valid. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives. The latest National Planning Policy Framework was updated in February 2019, with the section in relation to conserving the natural environment being located within section 15.

Section 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and, where possible, provide net gains in biodiversity. Opportunities to incorporate biodiversity gains into a development should be encouraged.

If a proposed development would result in significant harm to the natural environment which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused.

Species Specific Legislation

This section contains a summary of legislation with relation to the species present or potentially present in the survey area. The reader should refer to the original legislation for definitive interpretation.

Nesting and Nest Building Birds

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties.

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

'Reckless' offences with regard to the disturbance of nesting wild birds included in Schedule 1 of the Wildlife and Countryside Act were added by the Countryside and Rights of Way Act 2000.

The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. These lists include a number of bird species.

The reader is referred to the original legislation for the definitive interpretation.

Badger

The main legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to:

- wilfully kill, injure, take or attempt to kill, injure or take a badger;
- possess a dead badger or any part of a badger;
- cruelly ill-treat a badger;
- use badger tongs in the course of killing, taking or attempting to kill a badger;
- dig for a badger;
- sell or offer for sale or control any live badger;
- mark, tag or ring a badger; and
- interfere with a badger sett by:
 - damaging a sett or any part thereof;
 - destroying a sett;
 - obstructing access to a sett;
 - causing a dog to enter a sett; and
 - disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: "any structure or place which displays signs indicating current use by a badger".

Bats

All species of bat are fully protected under a variety of domestic, European and international legislation and conventions. These include:

- Bern Convention (Appendix II)
- Bonn Convention (Appendix II)
- Conservation Regulations (Northern Ireland) 1995
- Conservation of Habitats and Species Regulations 2010
- Countryside Rights of Way Act 2000
- Eurobats Agreement
- Habitats Directive (Annexes IV and II)
- Habitats Regulations 1994 (as amended) Scotland
- NERC Act 2006
- Wildlife and Countryside Act 1981 (as amended)
- Wild Mammals Protection Act

In addition to this, some species have additional protection by being listed on the UK Biodiversity Action Plan (UKBAP).

The legislation afforded to bats makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which protects birds, nests, eggs and nestlings from harm. In addition to this, some rarer species, such as barn owls are afforded extra protection.

National Planning Policy Framework, Section 15:

The published framework in 2018 replaces the previous Planning Policy Statement 9 and National Planning Policy (dated 2012).

Section 15: Conserving and enhancing the natural environment reaffirms the government's commitment to maintaining green belt protections and preventing urban sprawl, retains the protection of designated sites and preserves wildlife. It also aims to improve the quality of the natural environment and halt declines in species and habitats, protects and enhances biodiversity and promotes wildlife corridors.

Biodiversity 2020:

This sets out to halt overall biodiversity loss and support healthy well-functioning ecosystems by establishing coherent ecological networks, with more and better places for nature, to the benefit of wildlife and people. The government's policy is aimed at individuals, communities, local authorities, charities, business and government, which all have a role to play in delivering Biodiversity 2020.

Freshwater White-clawed Crayfish

The white-clawed crayfish is partially protected under Wildlife and Countryside Act 1981 (as amended). It is listed on schedule 5 and therefore afforded protection under Section 9 (1 and 5). Therefore, it is an offence to take white-clawed crayfish and to sell, or attempt to sell, any part of the species, alive or dead, or intend to buy or sell.

Great Crested Newt

The great crested newt (*Triturus cristatus*) is fully protected under a variety of legislation and conventions. These include:

- Bern Convention (Appendix II)
- Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
- Conservation of Habitats and Species Regulations 2010
- EU Habitats Directive (Annex II and IV)
- Nature Conservation (Scotland) Act 2004
- NERC Act 2006 (Section 41 England; Section 42 Wales)
- Wildlife and Countryside Act 1981 (as amended)

In addition to this, the great crested newt has been listed as a priority species on the UK Biodiversity Action Plan (UKBAP).

This legislation covers all aspects of newt life stages (eggs, efts and adult newts) and makes it illegal to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

Licenses can be obtained from Natural England (DEFRA) under the Conservation (Natural Habitats etc.) Regulations 1994, to permit activities for the purposes of:

- Regulation 44(2)(e): Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment, or
- Regulation 44(2)(f): Preventing the spread of disease
- Regulation 44(2)(g): Preventing serious damage to any form of property or fisheries

Or

- If there is no satisfactory alternative.

The above regulations allow people to carry out activities which would otherwise be illegal.

Hazel Dormouse

Hazel Dormouse and their habitats are protected by:

- Wildlife and Countryside Act 1981 (as amended)
- Countryside Rights of Way (CROW) 2000
- The Natural Environment and Rural Communities Act 2006
- Conservation of Habitat and Species Regulations 2010

These make it an offence to:

- Capture, injure or kill a Hazel Dormouse
- Disturb a Hazel Dormouse
- Damage or destroy breeding or nesting sites in use by Hazel Dormice
- Disturb a Dormouse whilst it is occupying a structure or place that they use for shelter or protection
- Obstruct access to any structure or place that the Dormouse uses for shelter and protection.
- To possess or control any live or dead specimens.

Otter

Otters are fully protected by the European Habitats Directive (92/43/EEC) by being incorporated in annex II of the legislation. In addition to this, otters are listed on schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take an otter.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by otters.
- To intentionally or recklessly disturb an otter whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell otters.

Reptiles

All six native reptiles within Great Britain are legally protected, with the extent of protection varying dependent upon their rarity and conservation importance.

Those that receive full protection under the Wildlife and Countryside Act 1981 (as amended) are the rare sand lizard and smooth snake. These species also receive protection under the Conservation (Natural Habitats &c.) Regulations 1994 (also referred to as the Habitats Directive). This means that they are protected from deliberate disturbance, killing, injury or capture and the habitat in which they live is also fully protected against damage or destruction. Any activity involving disturbance or damage to habitats utilised by sand lizards or smooth snakes would require a licence issued by the Department of the Environment, Food and Rural Affairs (DEFRA) following consultation with the statutory nature conservation organisation (Natural England).

The remaining four reptile species are 'partially protected' under the Wildlife and Countryside Act 1981 (as amended), with these species being slow-worm, common lizard, grass snake and adder. This means that these species are protected against intentional killing, injuring and against sale, but their habitat is not protected. In planning terms this means that the presence of these species is a material consideration and there is a requirement to ensure that any reptile interest is safeguarded. If a proposed development is likely to have an impact on these reptiles, then the statutory nature conservation organisation must be notified, particularly if capture and translocation is being proposed. In some parts of the UK, sites that support common reptile species such as common lizards and slow-worms can qualify as County Wildlife Sites. Sites of this designation may receive protection in planning policy.

Water Voles

Water Voles are fully protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take a water vole.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by water voles.
- To intentionally or recklessly disturb a water vole whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell water voles.

Non-Native Floral Species

It is an offence under schedule 9 of the Wildlife and Countryside Act 1981 (as amended) to plant or otherwise cause non-native flora to grow in the wild. This includes the transportation of earth that has previously had non-native species growing and includes the spread of the species.

All stands of non-native floral species need to be disposed of safely at a licenced landfill site according to the Environmental Protection Act (Duty of Care) Regulations 1991.

Appendix E: Bats and Artificial Light

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotis bats (*Myotis* spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

Current recommendations for all bat species specifies that no bat roost should be directly illuminated.

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

➤ **To introduce lighting curfews or use of PIR sensors.**

Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

➤ **To consider no lighting solutions where possible.**

Options such as white lining, good signage and LED cat's eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

➤ **To use only high pressure sodium or warm white LED lamps where possible.**

High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

➤ **To minimise the spread of light.**

The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

➤ **To consider the height of the lighting column.**

While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

➤ **To avoid reflective surfaces below lights.**

The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

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No reliance should be made on any such comments in relation to the structural integrity of the features located on the surveyed site. All information within the report is based solely on evidence that has been found on site during the service provided. No individual opinion or inference will be made other than that of the suitably qualified ecologist appointed to the project.