



**MAPLE ROAD, TANKERSLEY
ECOLOGICAL APPRAISAL**

SEPTEMBER 2017

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1 INTRODUCTION

Surface Property (Surface) was commissioned by Company Shop and Rula Developments Ltd to undertake an ecological appraisal of a plot of land, located off Maple Road, Tankersley (henceforth referred to as the Site).

This report is submitted in support of a planning application for a Distribution Centre with 2-storey offices, a service yard and car parking (henceforth referred to as the Development).

This report details ecological baseline conditions and potential ecological impacts from the Development, taking into account relevant planning policy and legislation (see the Annotated Site Plan in Appendix A). This report supersedes the April 2017 Ecological Appraisal previously submitted, following comments from Barnsley Metropolitan Borough Council (BMBC). Revisions have been made to Sections 4 and 5 owing to further survey work being undertaken in the interim period, as well as providing further details about the bat potential of individual trees in Appendix C.

Further surveys and mitigation have been described, where applicable, in order to provide additional information for assessing impacts and to inform recommendations to avoid or reduce potential adverse impacts.

2 METHODS

2.1 Desk Study

A desk study was undertaken to provide baseline information about the Development. A search for designated sites within 2 km of the Site (the Study Area) was undertaken using publicly available data. Records of Local Wildlife Sites (LWS) and notable and protected species were requested from Barnsley Biological Records Centre. In addition, the ecological appraisal completed by Wildscapes as part of a high-level habitat assessment by Barnsley Metropolitan Borough Council was reviewed.

2.2 Site Survey

An ecological walkover of the Site was conducted on 28th March 2017 by a suitably experienced ecologist who holds Natural England Licences for Bats and Great Crested Newts (*Triturus cristatus*) (Reference Numbers: 2015-16953-CLS-CLS and 2015-16848-CLS-CLS¹). The aim of this survey was to identify potential ecological constraints to inform the planning process. The survey focussed on habitats and protected species that may be affected by the Development.

2.3 Bat Assessment

During the survey, a preliminary assessment of the potential of on-site features to support bat roosts and/or provide suitable commuting or foraging habitat was conducted by a Natural England bat licenced ecologist. All Bat Assessment survey work and recommendations were carried out following the guidelines produced by the Bat Conservation Trust (BCT)². This initial bat assessment would inform whether or not further surveys would be required to assess the potential effects of the Development on bats. Features subject to assessment included the deciduous woodland, the grassland and the

¹ Scottish Natural Heritage Licences references available on request.

² Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd ed.). The Bat Conservation Trust, London.

individual trees. The individual trees were classified according to their 'Roost Suitability'. Should evidence of bats be recorded or the features assessed to provide potential for bats, further surveys may be required.

2.4 Great Crested Newts

2.4.1 Terrestrial Assessment

Habitats within the Site were assessed to determine their suitability for amphibians. In addition, natural/artificial refugia on the site were checked for sheltering animals or evidence of animals. Surveys were undertaken by a Natural England licenced surveyor.

2.4.2 Habitat Suitability Index (HSI)

A Habitat Suitability Index (HSI)³ of surrounding ponds was not undertaken because the desk study returned up-to-date records of great crested newts in them, thus negating the need for an assessment of their potential to support the species.

3 RESULTS

3.1 Desk Study

3.1.1 Designated Sites

The desk study identified no statutory designated sites within the Site; however, there was a single Local Nature Reserves (LNR) within the Study Area (Table 3.1). Additionally, seven LWS were located in the Study Area, the nearest of which, Sowell Pond, is located approximately 100 m to the east of the Site, beyond the existing Pilkington Glass Industrial Building (with associated parking areas). Furthermore, an area of deciduous woodland, a Priority Habitat under Section 41 of the NERC Act (2006), was present on the western boundary of the Site.

Table 3.1: Designated sites and their proximity to the Site.

Site Name	Distance and Direction from Site
Sowell Pond LWS	0.1 km to the east
West Wood LWS	0.2 km to the south-west
Westwood, Westwood Country Park and Thorncliffe Wood (combined) LWS	0.3 km to the south-east
Potter Holes LNR and LWS	0.7 km to the east
Rockley Woods LWS	1.7 km to the north

3.1.2 Protected Species

No records of protected species were recorded within the Site; however, great crested newts have been recorded within the ponds to the east and west of the Site (shown on the figure in Appendix A). The following protected species were also recorded within the Study Area:

- Daubenton's bat (*Myotis daubentonii*);
- Noctule bat (*Nyctalus noctula*);

³ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10(4), 143–155.

- Leisler's bat (*Nyctalus leisleri*);
- Brown long-eared bat (*Plecotus auritus*);
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Adder (*Vipera berus*); and
- Grass snake (*Natrix natrix*).

Due to copyright, the report produced by Barnsley Biological Record Centre containing full details of the above records cannot be reproduced, but the Local Planning Authority can request the information.

3.1.3 Previous Ecological Assessment

The ecological assessment undertaken by Wildscapes identified no protected species on the Site; however, the report concluded that some of the habitats on site had ecological value and that the Site was suitable for terrestrial stages of great crested newts. The botanical aspect of the previous ecological assessment is further appraised in the standalone botanical survey report submitted in conjunction with this report⁴.

3.2 Site Description

The Site is located within an Industrial Park and, as such, is bounded by a commercial unit to the east, by Maple Road and further commercial units to the south, a car parking area for a unit to the north, and an area of grassland to the west.

The Site was dominated by periodically managed semi-improved grassland (Plate 1 in Appendix B), with deciduous woodland to the west of the Site and areas of scattered and dense scrub. Plant species⁵ recorded within the grassland included cock's-foot, false oat-grass, Yorkshire-fog, brome, meadow foxtail and crested dog's-tail, with herbs present including yarrow, cow parsley, daisy, ribwort and greater plantain, meadow vetchling, creeping thistle, meadow and creeping buttercup, sorrel, ragwort and dandelion. Within the grassland, scrub species included hawthorn, dog rose and bramble.

The woodland to the west of the Site was a mixture of slender silver birch and large oaks to the north of the woodland belt (Plate 2 in Appendix B). Other tree species present included sycamore and cherry (for further tree details please refer to the Arboricultural Impact Assessment⁶). The shrub layer consisted of hawthorn, elder, bramble and dog-rose, with the ground flora including wood avens, bluebells (a Barnsley Metropolitan Borough Council Priority Species), dog's mercury, common nettle, dock, lesser celandine and cleavers.

Spoil heaps towards the eastern boundary, and those used as bunds at the south of the Site, had been colonised by tall ruderal vegetation (Plate 3 in Appendix B). Common nettle dominated these areas, with great willowherb, broad-leaved dock and cock's-foot abundant.

Further details on habitat types and a Phase 1 Habitat Map are provided in a standalone botanical survey report⁴.

3.3 Protected Species

The following sections describe the Site's potential to support protected species. Protected species not detailed below were considered highly unlikely to be present within the Site,

⁴ Surface Property (August 2017), *Botanical Survey Report*.

⁵ Nomenclature is restricted to common names for the purposes of this report.

⁶ Surface Property (April 2017), *Arboricultural Impact Assessment*

based on habitat type, surroundings and desk study records. However, a comprehensive watching brief for all protected species was undertaken throughout the site visit.

3.3.1 Badger

No evidence of badger (*Meles meles*) was recorded. The Site provided suitable foraging habitat for badgers, but despite a thorough search no evidence of badger was recorded. The proximity of the Site to a busy industrial park, when large amounts of suitable habitat are available to the west, may deter badgers from using the Site.

3.3.2 Bats

No evidence of bats was recorded; however, eight mature oak trees (T18, G19 and G20 on Drawing Number 50104-DR-ARB-104 Rev B submitted with the Arboricultural Impact Assessment⁵) were considered to provide moderate roosting potential for small numbers of roosting bats, with potential roost features (PRFs) such as knotholes, signs of decay and cavities present (shown on Figure 1 in Appendix A and Plate 4 in Appendix C). The majority of the other trees were semi-mature and in good condition with no evident cracks or rot holes that could provide potential roosting features for bats. Further details of the potential of all trees within the Site is given in Appendix C, with reference numbers in association with the aforementioned drawing.

The trees and vegetation within the Site provided features with the potential to support foraging and commuting bats and had connectivity to suitable habitats in the wider area. In relation to the surrounding area, where foraging and commuting habitat is abundant, and as some of the woodland belt is to be retained, the Site has been classed as 'moderate' suitability for bats.

3.3.3 Herptiles (Amphibians and Reptiles)

No waterbodies were present on Site and therefore there were no breeding opportunities for great crested newt or other species of amphibian. The desk study results show that great crested newts are present in the ponds to the west and east of the Site (shown on Figure 1 in Appendix A). The Site (comprising only terrestrial habitats) was assessed to provide low to moderate suitability for great crested newts owing largely to the high level of disturbance, as shown by well-worn tracks through the Site, high levels of littering and fly-tipping.

Despite the disturbance, some of the habitats on site (namely grassland and scrub) provide suitable habitat for amphibians and reptiles, with the adjacent terrestrial habitats providing more suitable habitat. A large number of artificial refugia were present on site, including corrugated sheets and bitumen felt, which are frequently used as survey equipment for both reptiles and newts. Despite a careful search of the Site, including lifting all refugia present, during optimal survey weather, no species of herptile was recorded. The desk study revealed that grass snakes and adder are present in the Study Area; however, these are shown to be south of the A616 and A61.

3.3.4 Other Protected/Notable Species

The Site was primarily assessed for its potential to support the species detailed above. The watching brief undertaken throughout recorded no evidence of other protected species. A number of birds' nests were recorded in the trees on site and the grassland provides suitable habitat for ground-nesting birds.

3.4 Limitations and Assumptions

The survey was undertaken in suitable weather (dry and sunny) by a suitably qualified ecologist who is a member of the Chartered Institute of Ecology and Environmental Management and holds Natural England Licences for bats and great crested newts. Therefore, there were no limitations to the survey.

4 FURTHER SURVEY REQUIREMENTS

The Site has suitable habitats for a number of protected species, and these habitats have the potential to be directly and indirectly impacted by the Development. The additional ecology surveys are currently underway and will be completed this survey season. The aim of these surveys is to provide further information to help assess the potential ecological effects of the Development and to inform mitigation.

4.1 Bats

4.1.1 Roosts

The low number of individual trees identified with PRFs within the woodland are considered to be of low importance to local bat populations as there is another large belt of woodland to the north and south of the A616, which is likely to have multiple trees suitable for roosting. Tree T18, the five mature oaks making up G19 and the two mature oak trees within G20 are scheduled to be retained (shown on Drawing Number 50104-DR-ARB-104 Rev B submitted with the Arboricultural Impact Assessment⁵), therefore no further survey work is required.

All trees to be lost have been classed as providing low suitability for roosting bats, with no PRFs (shown in Appendix C). In accordance with BCT guidelines which state '*if no or low suitability PRFs for bats are found then further surveys are not necessary*' no further surveys are required for these trees.

4.1.2 Activity

The Site has been classed as 'moderate' suitability for bats. The scope of surveys for this level of suitability, as recommended by the Bat Conservation Trust, includes:

- One walked transect survey per month (April to October), at least one of which should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period.
- Automated bat detectors deployed for five consecutive nights per month (April to October).

4.2 Herptiles

4.3 Great crested newts

No waterbodies are present on site and therefore there are no breeding opportunities for any species of amphibian; however, suitable terrestrial habitat is present. Furthermore, great crested newts have previously been recorded in ponds to the east and west of the Site (shown on Figure 1 in Appendix A). In order to determine the mitigation required and in accordance with a precautionary approach, surveys to determine presence/absence have been undertaken during mid-April to mid-June 2017. Details of the methods and results are reported in the standalone Great Crested Newt Survey Report submitted in conjunction with this report and are not repeated herein.

4.4 Reptiles

Suitable reptile habitat was recorded on the Site. Therefore, further surveys at the appropriate time of year and following standard methodology⁷ were carried out to confirm the presence/absence of reptiles. These surveys were necessary to assess the impacts of the Development. Details of the methods and results are reported in the standalone Reptile Survey Report submitted in conjunction with this report and are not repeated herein.

5 MITIGATION AND ENHANCEMENT

5.1 Bats

Mitigation for bats will depend on the results of the further survey work and the more detailed design of the Development. At this stage it is considered unlikely that any licences will be required for trees as all those with bat potential are scheduled to remain in place and no evidence of bats was recorded. Therefore mitigation is likely to include, but not be limited to:

- Ensuring that construction workforce are made aware of current legislation protecting bats via a Toolbox Talk;
- In the unlikely event that bats are encountered during construction then works will cease and Natural England contacted to agree appropriate measures;
- Development design will ensure that the northern and western boundaries are unlit by additional lighting (street lights are currently present outwith the Site); and
- Bat boxes will be installed on retained vegetation to provide enhanced roosting opportunities. Boxes will be installed in accordance with good practice.⁸

5.2 Great Crested Newts

Mitigation for great crested newts is dependent on the results of the further survey work and is discussed in the standalone Great Crested Newt Survey Report and not repeated herein.

5.3 Reptiles

Mitigation for reptiles is dependent on the results of the further survey work and is discussed in the standalone Reptile Survey Report and not repeated herein.

5.4 Nesting Birds

Ground works or vegetation clearance within the bird nesting season (March–August inclusive) may disturb or harm nesting birds. To ensure that works are legally compliant, it is recommended that vegetation clearance during the bird nesting season is avoided or, if necessary, preceded by a nesting bird survey.

Bird boxes will be installed on retained vegetation to provide enhanced nesting opportunities. Boxes will be installed in accordance with good practice⁹.

⁷ Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

⁸ http://www.bats.org.uk/pages/bat_boxes.html#Putting up your box

⁹ www.rspb.org.uk/advice/helpingbirds/nestboxes/index.asp

5.5 Woodland

The effects of woodland loss on protected species is discussed in the standalone protected species reports and will not be repeated herein. The botanical value of the woodland is discussed in the separate Botanical Report.

Deadwood plays a key role in ecosystem functioning and productivity in terrestrial habitats. It provides habitat for bryophytes, lichens, fungi, invertebrates, amphibians, reptiles, birds and mammals. Large amounts of standalone deadwood were not recorded; however, as identified in Appendix C, some of the trees had areas of deadwood at their base or on certain branches. The majority of these trees are scheduled to be retained (T8, W12, G17, T7, W12, T18, G19 and G20). The deadwood associated with the trees to be retained will be left in situ and will form part of the ground-level deadwood.

Trees T16 and T11, which have sections of deadwood, are scheduled to be removed. The deadwood and arisings from the removal of these trees will be retained in the south-western corner of the Site which is to be enhanced as an area of broadleaved woodland. Arisings from trees without deadwood will be retained as log piles which will over the years rot down to provide deadwood within the retained woodland.

6 CONCLUSIONS

Several protected species have the potential to be affected by the Development. Further survey work, as described Section 4, is required to inform the assessment of effects and mitigation. In order to increase the Development's biodiversity value, and to adhere to Government guidance set out in the National Planning Policy Framework 2012 (NPPF)¹⁰, a range of enhancement measures have also been provided (detailed in Section 5).

Specific details of the mitigation and enhancement measures could be included within an Ecological Mitigation and Enhancement Plan (EMEP) to be produced for the Development. This document would detail measures to be implemented in order to enhance the value of the Development and sympathetic management of these areas to maximise their ecological value in the long term. Buffer planting to strengthen the retained woodland as well as replacement planting and enhancement of the south-western corner should offset the loss of the restricted area of Priority Habitat. The production of an EMEP could be secured via an appropriately worded condition.

¹⁰ National Planning Policy Framework, [Online] Available:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

Appendix A

Annotated Site Plan

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Surface

- Site Boundary
- Dry Pond
- Pond
- Trees with Potential Roost Features (Indicative Locations)



Produced By: CA	Ref: 50104-REP-001
Checked By: CA	Date: 11/04/2017

Annotated Site Plan
Figure 1

Ecological Appraisal
Maple Road, Tankersley

Appendix B

Photographs



Plate 1: Site dominated by periodically managed semi-improved grassland.



Plate 2: Woodland to the west of the Site.



Plate 3: One of the colonised spoil heaps present on the Site.



Plate 4: Tree with potential roost features.

Appendix C

Bat Roost Potential of Trees

*Tree number cross references with Drawing 50104-DR-ARB-104 Rev B
submitted with the Arboricultural Impact Assessment⁵

No.*	Species	Structural Condition	Habitat Type	Bat Roost Potential	Lost or Retained	Further Surveys Required as per BCT Guidance
T1	Silver Birch	Single stemmed. Forked at 3.5m. Slight lean. Good shape and form. No major visible defects.	Grassland	Low – No potential roost features identified.	Lost	No
G2	Hawthorn, Elder, Birch	Dense shrubby group. Reasonable shape and form. Not pruned to any extent. Limited individual value. The birch has potential but is easily replaced. No major visible defects.	Mixture of woodland, semi-improved grassland and scrub.	Low – none of the individual trees provided potential roost features.	Lost	No
T3	Silver Birch	Thick main bole. Dieback of main leader with decay and possible nest. Limited crown. Limited long-term value.	Woodland	Low – low level decay inspected with no evidence recorded and damp conditions.	Lost	No
G4	Birch & Oak	2x single stemmed oak with potential but easily replaced. Birch of reasonable shape and form. No major visible defects.	Mixture of woodland, semi-improved	Low – both trees were in good condition with no potential roost features.	Lost	No
G5	Birch	Some snapped out limbs. Reasonable shape and form but limited individual value and limited long-term value.	Woodland	Low – group of eight birch trees, which as a species do not lend themselves to roosting bats due to bark type and size. Individual trees provided no potential roost features.	Half lost	No

T6	Oak	Single stemmed. Good shape and form. No major visible defects.	Woodland	Low – no potential roost features.	Retained	No
T7	Oak	Single stemmed. Forked at 3.5m. Some stubs and deadwood but no major visible defects.	Woodland	Low – no potential roost features. Low-level deadwood provided negligible suitability as open to elements.	Retained	No
T8	Oak	Single stemmed. Leaning to east and one-sided crown. Reasonable shape and form and complements T7. Deadwood and stubs.	Woodland	Low – no potential roost features. Low-level deadwood provided negligible suitability as open to elements.	Retained	No
T9	Hawthorn	Slightly buttswept. Upright form. Bird's nest noted. No major visible defects.	Woodland	Low – no potential roost features.	Retained	No
T10	Birch	Single stemmed. Collapsed leader with new shoots from bent leader and one limb taken vertical form. Limited individual value.	Woodland	Low – no potential roost features.	Retained	No
T11	Oak	Single stemmed. Slight lean. Good shape and form. Some deadwood and stubs. No major visible defects.	Woodland	Low – no potential roost features. Low level deadwood provided negligible suitability as open to elements.	Lost	No
W12	Birch, Oak, Hawthorn, Elder, Cherry	Woodland dominated by early mature birch with occasional oak and some understorey and younger trees. Some birch are beginning to dieback with some dead stems and snapped out trees noted. Little regen around. Would benefit from new planting to improve woodland structure and age mix.	Woodland	Low – individual trees within this large group has no potential roost features. The dead stems identified on the birch trees were on limbs considered too thin to offer bat roost potential.	Retained	No
G13	2x Oak, 1x Ash	3x single stemmed trees. Potential but easily replaced. No major visible defects.	Woodland and semi-improved grassland	Low – no potential roost features.	Lost	No
G14	Birch	One single stem and one triple stemmed forming one crown. Potential but easily replaced. No major visible defects.	Semi-improved grassland	Low – no potential roost features.	Lost	No

T15	Birch	Single stemmed. Good shape and form. Slightly one-sided but dense canopy. No major visible defects.	Woodland edge	Low – no potential roost features.	Lost	No
T16	Oak	Single stemmed. Reasonable shape and form. Slightly one-sided. Some deadwood and stubs. No major visible defects.	Woodland edge	Low – no potential roost features. Low-level deadwood provided negligible suitability as open to elements.	Lost	No
G17	4x Oak	4 single stemmed trees growing together and forming one crown. Some deadwood and stubs. No major visible defects.	Woodland	Low – no potential roost features. Low level deadwood provided negligible suitability as open to elements.	Retained	No
T18	Oak	Good shape and form. Some deadwood and stubs. No major visible defects.	Woodland	Moderate – knotholes and broken limbs identified. No suitable features that could support large numbers of bats.	Retained	No – not being affected by Development.
G19	Oak	Smallest tree with column of decay up stem but good woundwood. Also bent over due to canopy of adjacent tree. Generally some deadwood and stubs. Good shape and form. Work well as a group.	Woodland	Moderate – knotholes and broken limbs identified. No suitable features that could support large numbers of bats.	Retained	No – not being affected by Development.
G20	2 x Oak	2x single stemmed trees both with forked crowns. Good shape and form. Some stubs and deadwood. Minor ripped limbs.	Woodland	Moderate – knotholes and broken limbs identified. No suitable features that could support large numbers of bats.	Retained	No – not being affected by Development.
G21	Cherry, Oak, Sycamore, Hawthorn, Holly, Ash, Birch	Off-site shelterbelt along mound running behind the boundary fence. Reasonable shape and form. Minor overhang into site. No particularly large individuals. Potential.	Tree belt	Low – similar age composition with no potential roost features.	Retained	No

G22	Cherry, Oak, Sycamore, Hawthorn, Holly, Ash, Birch	Self-sown and/or suckers from adjacent trees off site. Limited value and easily replaced.	Scrub and semi-improved grassland	Low – similar age composition, immature trees, with no potential roost features	Lost	No
G23	Goat Willow, Hawthorn, Rose, Holly, Birch	Dense group of vegetation along edge of site adjacent to neighbouring building. Reasonable shape and form. Limited individual value and easily replaced. No major visible defects although not fully surveyed.	Semi-improved grassland	Negligible – similar age composition and negligible value for roosting bats due to limited size and density.	Lost	No
G24	2x Goat Willow	2x dense, bushy trees. Even spread. Easily replaced. No major visible defects.	Semi-improved grassland	Negligible – similar age composition and negligible value for roosting bats.	Lost	No