



**- Birthwaite Business Park, Barnsley,
South Yorkshire, S75 5JR -**

Preliminary Ecological Appraisal

May 2023

Updated September 2023

Birthwaite Business Park, Barnsley, South Yorkshire, S75 5JR -

Preliminary Ecological Appraisal

A report for

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on behalf of

The Masonite Group



A report by



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1. INTRODUCTION

1.1 REASON FOR SURVEY

PENNINE Ecological were commissioned in March 2023 by Mr. Andrew Rogers of Lawrence Hannah Property on behalf of the Masonite Group to undertake a Preliminary Ecological Appraisal (PEA) of Birthwaite Business Park, Barnsley, South Yorkshire, S75 5JR (hereafter referred to as 'the site').

The survey and report are required to support a planning application to develop the site with three new warehouses one measuring 67,750 square feet and two measuring 26,000 square feet. In addition, there will be 115 car parking spaces, and a 44,500 square foot lorry park.

The site was previously surveyed by Quants Environmental in 2021. However due to the lapse in time since these surveys were completed, an update was required hence PENNINE ecological being commissioned to repeat the PEA in 2023. A list of the surveys undertaken by Quants Environmental are listed below and in the reference list of this report. Where necessary these reports will be referred to in the Results and Ecological Evaluation and Recommendations sections of this report.

- Preliminary Ecological Appraisal (2021a).
- Badger (2021b).
- Bats (2021c).
- eDNA Survey for great crested newt (2021d).
- Reptile (2021e).
- Breeding bird (2021f).
- Botanical (2021g); and
- Butterfly (2021h).

The study includes the following elements:

- A desk-based search of freely available online ecological information (e.g., Defra's MAGIC mapping tool, Google Earth, Ordnance Survey mapping etc.).
- A review of ecological survey reports by Quants Environmental. These reports date from autumn 2021 and were undertaken as part of a feasibility study for the same proposals. A full list of the survey reports can be found in the reference list of this report.
- A UK Habitat Classification habitat field survey.
- Survey and evaluation of the site to support protected and/or notable species including but not limited to:
 - Badger.
 - Bats.
 - Birds, including Schedule 1 listed species of the Wildlife and Countryside Act 1981 (as amended) (e.g., barn owl, hobby, kingfisher, etc.).
 - Great crested newt.
 - Where relevant, other protected species (e.g., brown hare, hedgehog, reptiles, etc.).

The report provides a full evaluation of the ecological significance of the desk based and field survey results and includes recommendations for further survey if required and/or precautions when and where appropriate.

The report was updated in September 2023 to include the results of the eDNA surveys conducted on two ponds within the site.

1.2 SITE LOCATION

The site is located approximately 5.5km north west of the centre of Barnsley. The towns of Kexborough, Darton and Mapplewell are all within 2km of the site, to the south and east respectively. The site is immediately adjacent to and west of the M1 motorway and is located to the north of the A637 Huddersfield Road.

The central Ordnance Survey National Grid Reference for the site is SE 30424 10363.

Refer to Figure 1 below which includes the approximate red line boundary of the site that was subject to a UK Habitat Classification survey on the 5th of April 2023. An accompanying habitat map is provided in Map 1, Appendix A with photographs provided in Appendix B.



Figure 1 - Site location and the area subject to survey in April 2023 is marked the red line boundary.

2. METHODOLOGY

The methodologies relating to desk-based searches and field surveys undertaken in April 2023 are outlined below.

2.1 DESK-BASED STUDY

2.1.1 Local Records Centre Data Request

A request for ecological data in 2023 to the two relevant local records centres for this site, South Yorkshire Biological Records Centre and the West Yorkshire Ecology Services was not made for inclusion within this PEA report. The reasons for this are that the data received in 2021 by Quants Environmental which was included as part of their Preliminary Ecological Appraisal (Quants Environmental, 2021) for the site, is unlikely to have significantly been added to to such an extent that the records of protected and/or notable species will influence any conclusions/recommendations made within this report.

The full results of the ecological data received by Quants Environmental are included within their Preliminary Ecological Appraisal report (Quants Environmental, 2021). Furthermore, and where necessary i.e., within the Results/Ecological Evaluation and Recommendations sections etc. these reports will be referenced with regards to the PEA undertaken by PENNINE ecological in April 2023 so to improve the ecological assessment of the site.

2.1.2 Defra's MAGIC Mapping Tool

The Multi Agency Geographical Information Centre (MAGIC) (www.magic.gov.uk) created by DEFRA was used to identify the following features of ecological interest (MAGIC was last accessed on the 12th of April 2023).

- Statutory designated sites (e.g., Special Protection Areas (SPA), Sites of Special Scientific Interest (SSSI)) within 2km of the site (and associated SSSI Impact Risk Zones).
- Granted European Protected Species Licence Applications within 1km.
- Great Crested Newt (GCN) Class Survey Licence Returns within 500m.

2.2 UK HABITAT CLASSIFICATION SYSTEM SURVEY

A UK Habitat Classification Survey (UKHab, 2020) of the site was undertaken by PENNINE ecological on 5th of April 2023. The survey was undertaken by Stuart Macpherson who is an experienced ecologist with experience of undertaking UKHabs surveys and holds survey licences for great crested newts, bats and barn owl. Weather conditions during the April 2023 PEA survey were 10°C, periodic light drizzle with overcast skies.

The site's habitats were fully mapped with reference to Stace (1997), and higher vascular plant species (where present) were recorded and given abundance values according to the standard DAFOR scale where: D is dominant, A is abundant, F is frequent, O is occasional, and R is rare. Where appropriate the abundance values can be prefixed by the letter L (locally) or V (very), to provide more subtle biogeographical data.

2.3 BADGER SURVEY

Where access permitted a badger survey was undertaken to identify evidence of badger utilising the site. Surveys were undertaken in accordance with *Surveying Badgers* (Harris *et al.*, 1989) and *Badger* (Roper, 2010).

2.4 PRELIMINARY ROOST ASSESSMENT FOR BATS

A preliminary bat roost assessment survey was undertaken following the methodology outlined in the Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn) Collins (2016).

The survey was undertaken by Stuart Macpherson who is a Class 2 bat licensed ecologist (licence number 2021-10079-CL18-BAT).

The survey included a survey for potential roost features (PRFs) within buildings, trees or any other structures which may support a bat roost (e.g., culverts, bridges, walls etc.) within the site boundary and which may be directly impacted on by the proposals.

The site was also assessed for its suitability to support foraging and commuting bats.

2.5 GREAT CRESTED NEWT HABITAT ASSESSMENT

A habitat suitability assessment for GCN and other amphibians was undertaken for the site. A search for optimal GCN habitat (e.g., ponds, hedgerows, dense vegetation, broadleaf woodland etc.) was undertaken with reference to *An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus* English Nature Research Reports, English Nature (2004).

A Habitat Suitability Index (HSI) survey was also undertaken on two ponds in accordance with the Amphibian and Reptile Groups of the United Kingdom ARG UK Advice Note 5 (2010). The HSI survey is a means of evaluating habitat quality and quantity using a numerical index, between 0 and 1. The score is calculated from ten indices; $HSI = (SI1 \times SI2 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9 \times SI10) 1/10$. The indices are listed below.

- S1 Geographic location
- S2 Pond area
- S3 Pond permanence
- S4 Water quality
- S5 Shade
- S6 Water fowl effect
- S7 Fish presence
- S8 Pond Density
- S9 Terrestrial habitat
- S10 Macrophyte cover

2.6 REPTILE HABITAT ASSESSMENT

A habitat suitability assessment for reptiles was undertaken for the site. The survey was undertaken in accordance with the Reptile Habitat Guide - National Amphibian and Reptile Recording Scheme, The Herpetological Trust (2007).

The survey included a search for suitable reptile habitats which can include rough grassland, embankments, derelict or brownfield sites and overgrown and/or neglected land.

2.7 BREEDING BIRD HABITAT ASSESSMENT

Breeding birds were evaluated by an assessment of the sites habitats to support breeding birds and any evidence of current or historic nesting.

Habitats suitable for breeding birds could include but are not limited to buildings, scrub, hedgerows, and trees.

2.8 LIMITATIONS

There were no significant constraints to the April 2023 survey. April to September inclusive is considered to be within the optimal survey period for conducting UK Habitat Classification surveys. However, given the survey was undertaken at the start of April, it is likely many plant species had not fully grown and it is possible some species were not visible at the time of survey. However, where possible, the 2022 PEA results included in the Quanta Environmental survey which was undertaken in late April will be referred to so to improve any habitat assessment.

The timing of the survey is not seen as a significant factor to the survey findings and if required, all conclusions and recommendations will account for the timing of the survey.

3. RESULTS

The results of the desk-based searches, the UK Habitat Classification field survey and the species-specific surveys are outlined below.

3.1 DESK-BASED SEARCHES

3.1.1 Statutory Designated Sites

There were no statutory designated sites within 2km of the site's red line boundary (Figure 2). The SSSI Impact Risk Zones (IRZs) have been reviewed and consultation with Natural England is not required.

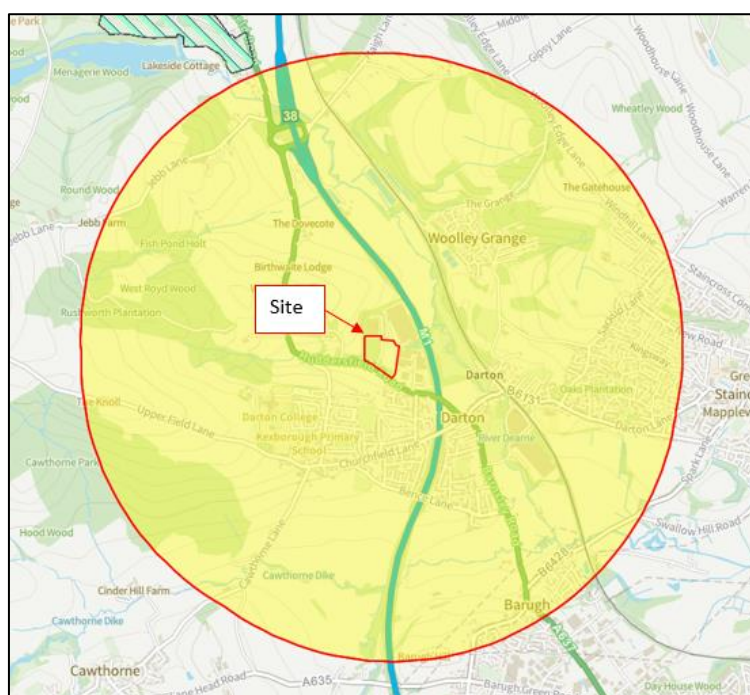


Figure 2. Statutory sites within 2km of the site's red line boundary.

3.1.2 Non-Statutory Sites

Referring to Quants Environmental PEA report (Quants Environmental, 2021) no non-statutory designated sites were identified within 2km of the site's red line boundary.

3.1.3 Protected and/or Notable Species

(a) Local Records Centre Protected Species Records

Table 1 below summarises the protected and/or notable species records data received from SYBRC and WYES in 2021 following the request made by Quants Environmental. For the full list of results please refer to (Quants Environmental, 2021).

Table 3-1 Summary of ecological desk study data obtained by Quants Environmental in 2021.

Species / Species Group		No. of records	Distance and direction from the site	Year of most recent record
Bats		23	970m east	2019
Mammals (excl. bats)	Otter	1	1151m	1999
	Water vole	1	1480	1997
	Badger	2	None within 200m of the site.	Not disclosed by the local records centre
	Other mammals (e.g., brown hare, hedgehog etc)	Multiple	Within 2km	2015
Amphibians	Great crested newt	1	190m west	1995
	Smooth newt	2	1571m north east	1997
Reptiles		9	980m north	2019
Birds		Multiple	Within 2km	2014
Invertebrates		Multiple	Within 2km	2019

(b) Granted European Protected Species Licence Applications

There are no granted EPS license applications within 1km of the site.

(c) Great Crested Newt Class Survey Licence Returns

No Great Crested Newt Class Survey Licence Returns were identified within 1km of the site.

3.2 UK HABITAT CLASSIFICATION SURVEY

3.2.1 General Description

Habitat types with the UK habitat Classification in brackets are listed below.

- h3d Bramble scrub
- h3h Mixed scrub
- h3j Willow scrub
- g3c Other neutral grassland
- g4 Modified grassland
- u1b – Developed land; sealed surface
- w1g6 Line of trees
- 11 Scattered trees
- 17 Ruderal ephemeral
- 73 Bare ground (artificial earth bund)
- 191 Ditch (dry)
- w1g Other woodland; broadleaved.

Target notes identified on site are listed below with further, detailed descriptions provided below.

- Target Note 1 – Semi-improved Grassland/Standing Water
- Target Note 2 – Bramble Scrub
- Target Note 3 – Broadleaved Woodland

- Target Note 4 – Dry Ditches/Adjacent Broadleaved Woodland
- Target Note 5 – Hardstanding/Heavy Goods Vehicle Parking
- Target Note 6 – Artificial Ponds
- Target Note 7 – Poor Semi-improved Grassland
- Target Note 8 – Amenity Grassland/Line of Trees

(a) Target Note 1 – Other neutral grassland/Standing Water

Centred around the grid reference SE 30359 10413 in the western section of the site, an area of poor semi-improved grassland generally dominated but it had become a mosaic of habitats with tall ruderal, mixed scrub and standing water also recorded.

Due to the survey being completed at the beginning of April, it is not known if the standing water would be present throughout the year, although a number of species recorded such as reed canary grass (LF), soft rush (F), reedmace (LA), yellow flag iris (LA), club rush (O), and alder (LF), a filamentous algae (LD) suggests the area remains damp/waterlogged. The area of standing water could not be estimated due to mosaic of habitats which is was located within. The standing water in some areas would be approx. 10cm deep but it would be within areas where grasses and tall ruderal vegetation grew. No evidence of amphibians was recorded during the survey. September 2023 Update; Following the identification of the standing water, an eDNA survey was to be conducted in this area of the site in June 2023. However, upon arrival the water had dried out thus making it unsuitable as an amphibian breeding pond with particular focus given to great crested newts.

Other botanical species recorded in the area are as follows; greater willow herb (A), broad-leaved dock (A), creeping buttercup (F), common knapweed (O), lesser celandine (R), meadow buttercup (F), red fescue (O), springy turf moss (A). Mixed scrub species recorded included hawthorn (O), pedunculate oak (R), rose species (O), alder (O) and goat willow (O).

(b) Target Note 2 – Bramble Scrub

Two areas of bramble dominated scrub were recorded in the western section of the site. As has been described for Target Note 1, it proved difficult to accurately define and map the areas of habitats within this area due to the mosaic of habitats which had established within the site as a whole. Often tall ruderal species such as greater willowherb and scrub species such as hawthorn, goat willow, and alder were present on the fringes of the bramble scrub.

(c) Target Note 3 – Broadleaved Woodland

Broadleaved woodland dominated the western and southern areas of the site. Along the southern boundary mature deciduous woodland was recorded either side of the site boundary extending southwards towards the A637 Huddersfield Road. The woodland had established on a bank of approximately 30 degrees in gradient. Species recorded included ash (A), hawthorn (F), goat willow (A), blackthorn (F) and alder (O).

Along the western boundary of the site at grid reference SE 30293 10440, species recorded included hawthorn (A), blackthorn (F), rose (F), pedunculate oak (O). This particular area resembled mature/dense scrub but has been classified as broadleaved woodland due to its proximity to

adjacent woodland outside of the site boundary fence so it was essentially 'acting' as a continuation of the woodland.

(d) Target Note 4 – Dry Ditches/Adjacent Broadleaved Woodland

Two dry ditches were identified to the north and south of an area of immature broadleaved woodland. No aquatic plant species were identified indicating the ditches had been dry for a significant period of time or only hold water for a very limited period throughout the year. Both ditches were approximately 60m in length, 2.5m wide at bank height and 1.5m high. Adjacent to the ditches was an area dominated by immature broadleaved woodland with tall ruderal and scrub habitat on its fringes. Species recorded included goat willow (A), silver birch (F), alder (F), dogwood (LD), nettle (F), greater willowherb (F), white dead nettle (R), creeping thistle (F), bramble (LA), reed canary grass (LF), field woodrush (O), hawkbit sp. (R), tufted hair grass (O), hart's-tongue fern (O), wild angelica (O), cleaver (F), soft rush (O), meadow vetchling (R), common hogweed (R), vetch sp. (R), and strawberry (O).

(e) Target Note 5 – Hardstanding/Heavy Goods Vehicle Parking

A significant proportion, approximately 0.6 hectares of the eastern section of the site comprised a heavy goods vehicle parking area and a newly constructed storage area.

(f) Target Note 6 – Artificial Ponds

In the eastern section of the site a series of five square cut, artificially created drainage ditches (referred to as ponds hereafter) were recorded and following a conversation with Andrew Rogers for whom the report is addressed to, these were created to collect surface water. Reviewing historical aerial imagery, the ponds appear present in 2018 but not in 2016 so they are assumed to have been created between these years. Furthermore, there are two 'lines' of drainage ponds, however only one line was recorded in 2023. It is likely due to the construction of the new storage area and the movement of machinery and earth as well as natural succession that only one line now exists. Prior to the ponds being created, the land appears to be either poor semi-improved grassland and/or short ephemeral habitat. The ponds surveyed in 2023 were along a line measuring approximately 45m. For the purposes of great crested newt habitat assessment due to the close proximity, similar characteristics shared between each pond these will be assessed as being a single pond. Each measuring approximately 3.5m x 1.5m and 30cm deep a filamentous algae was recorded within the ponds with reedmace, soft rush and sedges were recorded either partially within or on the fringes of the ponds. Frog tadpoles were recorded in the pond at grid reference SE 30489 10339 (no other evidence amphibians were recorded i.e., eggs). The surrounding habitat was dominated by a carpet of moss with silver birch/willow sp. scrub and an artificially created earth bund (bare earth).

September 2023 Update; Following the identification of these ponds on site, an eDNA survey was to be conducted on the standing water in this area of the site in June 2023. However, upon arrival the water had dried out thus making it unsuitable as an great crested newt breeding pond. Eggs and efts would not survive without the presence of standing water.

(g) Target Note 7 – Other Neutral Grassland

In the eastern section of the site an area of approximately 0.5 hectares was recorded as being poor semi-improved grassland habitat. A small area was dominated by moss which had appeared to have been disturbed by vehicle movement hence a lack of botanical diversity. Reviewing historical aerial imagery, the area appears to have been unmanaged since at least 1999. The habitat comprised a dense layer of springy turf moss with spring cinquefoil (O), strawberry (R), creeping thistle (O) soft rush (O), creeping buttercup (O), common primrose (O), clover sp. (O), ribwort plantain (O), tufted hair grass (O), speedwell sp. (R), spring cinquefoil (R), oxeye daisy (R), ribwort plantain (R), bedstraw sp. (R), common knapweed (R), broad-leaved dock (O), wild angelica (R), and yarrow (O). Additionally, scrub species such as hawthorn (O), rose sp. (O), silver birch (F), alder ((O), bramble (LD) and willow sp. (F) were recorded throughout the grassland.

(h) Target Note 8 – Amenity Grassland/Line of Trees

Along the northern boundary in the eastern section of the site (SE 30483 10428) an area of amenity grassland measuring approximately 0.25ha was recorded. A line of immature/semi-mature willow sp. larch, whitebeam, silver birch and fir sp. trees were recorded along the site's northern boundary. This area was presumed to be used as a seating/outside eating facility for the staff of Premdor.

3.3 PROTECTED SPECIES SURVEY RESULTS

3.3.1 Badger Survey

Setts

The survey found no setts on site.

The only suitable habitat for badger would be along the southern and potentially the western boundaries of the site where broadleaved woodland and dense scrub was recorded. The vast majority of the site was relatively flat and comprised either standing water and/or wet ground which is unsuitable sett habitat for badgers and other burrowing mammal species e.g., fox, rabbit etc.

Other Field Signs

No other field signs of badger were recorded during the survey.

3.3.2 Preliminary Roost Assessment (PRA) for Bats

No buildings, culverts, bridges etc. or trees were found to comprise features suitable for roosting bats. Generally, the vast majority of the trees on site were immature, self-seeded silver, willow sp. alder trees that were estimated to be no more than 10 – 15 years old.

3.3.3 Great Crested Newts

(a) Habitat Assessment

For the purposes of the GCN Habitat Assessment the standing water described in Target Note 1 is referred to as Pond 1 (SE 30359 10413) and the line of ponds described in Target Note 6 in the

eastern section of the site will be assessed as being a single pond referred to as Pond 2 (SE 30475 10342).

Habitat Suitability Index surveys were completed for both ponds. The results are included in Table 1. Pond 1 was assessed by the calculator as being of Good and Pond 2 being of Average habitat suitability to support great crested newt.

Table 3-2 HSI Results for Ponds 1 and 2 within the red line boundary of the site.

SI Description	Pond 1	Pond 2
Geographic location	1	1
Pond area	1	0.1
Pond permanence	0.5	0.9
Water quality	0.67	0.67
Shade	0.6	1
Water fowl effect	0.67	0.67
Fish presence	1	1
Pond Density	0.65	1
Terrestrial habitat	1	0.67
Macrophyte cover	0.9	0.3
HSI Score	0.78	0.62

(b) eDNA Survey

Following the identification of these two ponds an eDNA survey visit was undertaken in June 2023. However, upon arrival the water had dried out in both ponds thus making them unsuitable as a great crested newt breeding as eggs and efts would not survive without standing water present.

3.3.4 Reptile Habitat Assessment

The grassland habitats, woodland and ponds described in the Target Notes within the site do offer some good quality habitat for commonly occurring reptiles such as common lizard, slow worm and grass snake. There are also piles of discarded tarmac and numerous brash piles that will provide hibernacula for reptiles should they be present within the site.

3.3.5 Breeding Birds Habitat Assessment

The habitats on site is optimal breeding habitat for a variety of bird species. During the survey the numerous bird species were recorded either using the site or flying over. Whilst no nests were recorded it is highly likely birds will use the site for breeding/nesting. Species recorded included; chiffchaff, willow warbler, mallard, reed bunting, linnet, song thrush, wren, robin, long tailed-tit, blackbird, goldcrest, dunnoek and greenfinch.

3.4 OTHER PROTECTED SPECIES

Issues in relation to other potential protected species where no specific survey was undertaken are assessed in the following section.

4. ECOLOGICAL EVALUATION & RECOMMENDATIONS

Where relevant, this section evaluates the site in relation to statutory sites, and protected habitats/species listed in national and local legislation and policy.

4.1 STATUTORY DESIGNATED SITES

(i) Evaluation

No statutory designated sites were identified within 2km of the site's red line boundary.

(ii) Recommendations

No further recommendations.

4.2 NON- STATUTORY DESIGNATED SITES

(i) Evaluation

No non-statutory designated sites were identified within 2km of the site's red line boundary.

(ii) Recommendations

No further recommendations.

4.3 HABITATS AND HIGHER PLANT SPECIES

(i) Evaluation

No nationally scarce or red data listed plant species were recorded on site. This is supported by the Quants Environmental Botanical Survey Report (2021) (including the desk study data) which was conducted in July 2021.

The remaining habitats on site are of limited ecological value and are considered to be of 'site' value only. The grassland/standing water, mixed scrub, bramble and broadleaved woodland in the western section of the site comprises the most diversity when compared to the eastern section of the site, the latter of which comprises a Heavy Goods Vehicle parking, a newly constructed storage area, earth bunds and poor semi-improved grassland habitats.

(ii) Recommendations

There are no requirements for further surveys.

However, as a result of the proposals the vast majority of the habitats on site are expected to be lost. Significant habitat creation will have to occur within the site to achieve to avoid overall losses. Further comment from the Local Planning Authority (LPA) is likely to be required as to how they wish these losses to be mitigated for. However, it is recommended that a formal Biodiversity Net Gain assessment in accordance with DEFRA's Biodiversity Metric 4.0 is undertaken but this will need to be reviewed by the LPA. It is likely due to the large size of the warehouses, car parking etc. associated with the development it is anticipated 'off-site' habitat creation and/or financial contributions will need to be considered in order to offset any losses.

4.4 BADGER

(i) Evaluation

Badgers are protected under Schedule 6 of the Wildlife and Countryside Act 1981, and under the Protection of Badgers Act 1992, which prohibits deliberate interference with the animal or its sett.

No evidence of badger was recorded on the site. This is supported by Quants Environmental Badger Survey Report (2021). Only two records of badger within 2km of the site were returned as part of the ecological data request made by Quants Environmental.

(ii) Recommendations

There are no requirements for further surveys. However, should a significant period of time (approx. 2 years) elapse between this survey report and the start of construction, it is recommended that an update walkover survey of the site be undertaken to ensure no new badger setts have been created within the site boundary and thus potentially lead to the destruction and/or disturbance of a badger sett.

4.5 BATS

(i) Evaluation

Bats are comprehensively protected by European legislation. No buildings, culverts, bridges or trees within the site boundary comprised features which could potentially support a bat roost.

Reviewing Quants Environmental Bat Survey Report (2021), transect and static detector surveys were undertaken during the 2021 bat survey season. The report concluded that overall, the site supported 'low levels' of commonly occurring bat species such as common and soprano pipistrelle bats, brown long-eared bat, noctule bat, Leisler's bat, and *Myotis* bat species. No roosts were confirmed during Quants Environmental surveys. Additionally, numerous records of bats were returned as part of the ecological data request, however, none were within the site's red line boundary.

(ii) Recommendations

Although no roost has been identified, the proposal may consider enhancements for bats to demonstrate a biodiversity net gain for this site, in accordance with local and national planning policy. A number of potential enhancement measures are provided below.

Habitat Retention

Where possible the existing habitats on site should be retained, particularly the broadleaved woodland which Quants Environmental found to support higher levels of bat activity during the transect and static detector surveys.

External Lighting

In all cases illumination of peripheral boundary areas should be avoided. Where lighting is required, this must be low level, low intensity and directed downwards away from boundaries. The following principles will apply.

- Where and if lighting is required, this will be directed internally within the site avoiding spillage towards boundary habitats.
- The use of low powered sodium lights or similar will be used and these will be fitted with cowls / covers that prevent lateral light spillage towards boundary habitats.
- Wherever possible and only if required low level (1-1.5m high) bollard lighting will be used.
- If required lights will be fitted with timer controls that minimise the duration of lighting.

Lighting requirements will follow guidance provided by the Bat Conservation Trust; links are provided below.

- Bat Conservation Trust's Acritical Lighting Guidance. Webpage link <https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting>
- Bat Conservation Trust and Institute of Lighting Professionals Guidance Note 08/18: Bats and Artificial Lighting in the UK. Webpage link <https://cdn.bats.org.uk/uploads/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?v=1542109349>

Externally Fitted Boxes

A large number of externally fitted box models for bats exist for buildings. Suitable models for both buildings and trees are readily available and may include the Eco Kent Bat Box, Schwegler 2F, Schwegler 1FF bat boxes.

4.6 GREAT CRESTED NEWT (AND OTHER AMPHIBIAN SPECIES)

(i) Evaluation

Great crested newt is comprehensively protected under European legislation.

There are two ponds within the proposed development site. Pond 2 (referred to as Pond 1 In Quants Environmental GCN eDNA Survey Report, (2021)) was subject to an eDNA survey in 2021, Pond 2 within this report was not subject to an eDNA survey.

Pond 1 returned a negative eDNA sample, so it is reasonable to assume GCN were not present in the pond in 2021.

(ii) Recommendations

Due to the presence of the two ponds within the site's red line boundary and the lapse in time since the eDNA surveys were conducted by Quants Environmental, it is recommended eDNA surveys are completed on the two ponds. Further surveys/consideration will be made once the results of the eDNA are returned.

September 2023 Update; As has been described in the results section of the report the two ponds within the site were dry when a site visit was undertaken in June 2023. Therefore, it is highly unlikely these ponds would support breeding great crested newt as both eggs and efts would not survive without standing water.

4.7 REPTILES

(i) Evaluation

All reptiles are offered various levels of protection under the Wildlife and Countryside Act (1981) as amended.

The mosaic of habitats on site are suitable for reptile, however, following the surveys completed by Quants Environmental in 2021 which found no reptiles, it is reasonable to consider reptiles are absent from the site.

(ii) Recommendations

There are no requirements for further surveys. However, it is prudent that RAMs be implemented that will ensure that reptiles or their habitat are not adversely affected during the proposed development.

The following recommendations are therefore required to be implemented.

- Works should be undertaken outside of the reptile hibernation period (November to March) and when temperatures are greater than 5°C.
- All potential hibernacula on site should be removed prior to the start of construction.
- All materials should be stored on pallets to avoid reptiles seeking refuge under stored materials.
- Following any excavations, digging of trenches or foundations etc. amphibian 'escape route' ramps must be implemented that would allow egress from such features e.g., a wooden board placed at approximately 45° from the base of the trench to ground level.
- Any holes must be securely covered as such not to allow GCN or other amphibians to fall into them and not be able to escape.
- Before infilling excavations, checks for reptiles and other amphibians/mammals must be made.

4.8 BIRDS

(i) Evaluation

All birds are offered various levels of protection under the Wildlife and Countryside Act (1981) as amended.

The proposal is likely to include the clearance of potential breeding bird habitats such as scrub, hedgerows and trees.

(ii) Recommendations

No strategic bird surveys are required.

The breeding bird season is generally accepted to be from and between March 1st to August 31st inclusive. However, any removal of vegetation should take place outside of the breeding season, i.e., between September 1st and February 28th. Following the removal, any piles of brash should be removed from the site, failure to do so could provide potential nest sites if left in situ until the following breeding season.

If vegetation removal is envisaged during the breeding season, prior to removal checks should be made by a suitably experienced ecologist to establish any nesting or breeding activity. Should it be identified that birds are nesting or breeding then works should be paused until the young have naturally fledged the nest.

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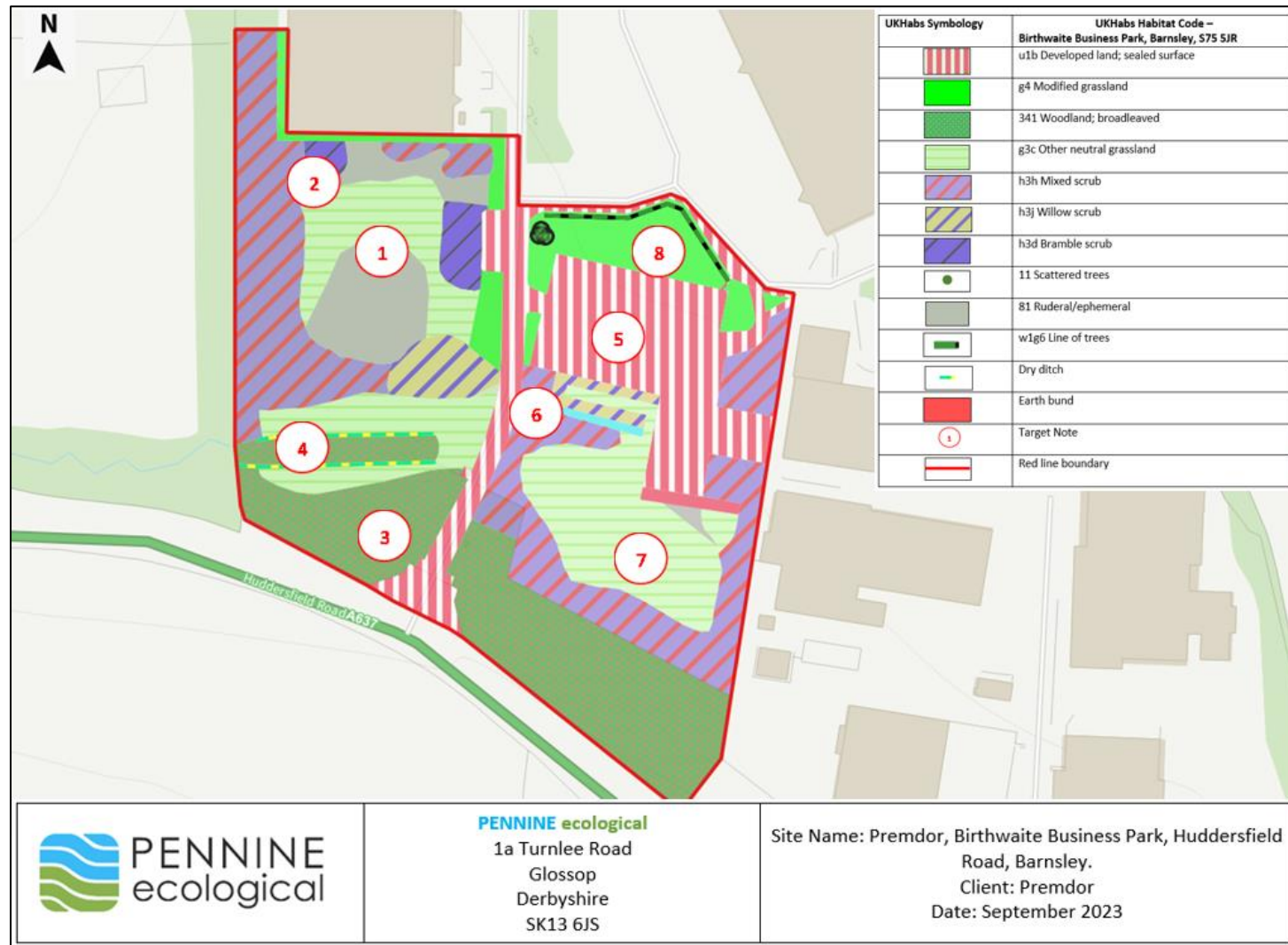
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Appendix A: Figure 1 - UK Habitat Classification Survey Plan



Appendix B - Site Photographs



Photograph 1: Overview of western section of the site.



Photograph 2: existing warehouse along north western boundary.



Photograph 3: Dense scrub and broadleaved woodland along the site's western boundary.



Photograph 4: Western boundary of the site.



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Photograph 5: Western section of the site. Note the mosaic of habitats.



Photograph 6: Pond 1 in western section of the site.



Photograph 7: Mixed scrub, ruderal and neutral grassland in the western section of the site.



Photograph 8: Western boundary fence line.



Photograph 9: Neutral grassland in the southern half of the western section of the site. Note also the linear length of broadleaved woodland.



Photograph 10: Mosaic of habitats along the south western boundary of the site.



Photograph 11: Brash pile in the south western section of the site.



Photograph 12: HGV parking area.



Photograph 13: Amenity grassland in the north eastern corner of the site.



Photograph 14: Newly constructed storage area in the eastern section of the site.



Photograph 15: Example of Pond 2 (four more ponds almost identical to this one were recorded)..



Photograph 16: As for Photograph 15.



Photograph 17: Earth bund in eastern section of the site.



Photograph 18: Mosaic of habitats in the eastern section of the site.



Photograph 19: Newly constructed storage area and hardstanding.

NO PHOTOGRAPH