Whitcher Wildlife Ltd.
Ecological Consultants.

LAND AT HAY GREEN COURT, BIRDWELL.

OS REF: SE 34754 01356.

ECOLOGICAL IMPACT ASSESSMENT.

Ref No: 250145 / EcIA

Date: **18th February 2025.**

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1. INTRODUCTION.

1.1. There are plans to develop an area of Hay Green Court in Birdwell; the plans include the erection of two residential properties. A proposed development plan can be found in Appendix VIII.

1.2. Whitcher Wildlife Ltd has been commissioned to carry out a Preliminary Ecological Appraisal of the site to establish whether there are any issues that may affect the proposed works.

1.3. The site survey was carried out on 21st January 2025. This report outlines the findings of that survey and makes appropriate recommendations.

1.4. A previous survey of this site was conducted by the surveyor in October 2022, which was also reviewed as part of this survey.

1.5. Appendices I to IV of this report provides additional information on specific species and are designed to assist the reader in understanding the contents of this report.

1.6. The report has been converted to an Ecological Impact Assessment suitable for submission to the Local Authority.

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2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site, the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the UK Habitat Classification methodology to identify the primary habitat types throughout the survey area. All primary habitats are accompanied by secondary codes which are used to add further specific details where necessary. Each primary habitat and unique set off secondary codes will be shown individually in the appended annotated map.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society: -

* Badger setts.
* Badger latrines or dung pits.
* Badger snuffle holes and evidence of foraging.
* Badger paths.
* Badger prints in areas of soft mud.
* Badger hairs caught on fencing.

2.4. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 100m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Dean M, Strachen R, Gow D and Andres R (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series).* Eds Fiona Mathews and Paul Chanin. The mammal Society, London: -

* Water vole burrows.
* Water vole faeces and latrines.
* Water vole feeding stations.
* Water vole runs.
* Water vole prints in areas of soft mud.
* Water vole lawns.
* Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter* and *Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines: -*

* Otter prints in soft mud.
* Otter spraints.
* Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for trees and structures and where found these were checked for potential bat roosting sites in line with Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)* by looking for the following signs: -

* Holes, cracks or crevices.
* Bat Droppings.

2.8. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.9. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.10. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.11. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.12. This document is prepared in line with The National Planning Policy Framework (NPPF). This sets out the government policy on biodiversity and nature conservation and places a duty on Planning Authorities to give material consideration to the effect of a development on legally protected species when considering planning applications. The NPPF and the Planning Practice Guidance on "Natural Environment" also promote sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

2.13. This report is prepared in line with the Natural Environment and Rural Communities (NERC) Act that came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

2.14. The survey conducted from track level was carried out by Alexandrea White BSc (Hons) MSc ACIEEM MIEnvSc CEnv. Alex has worked as a consultant since 2013 carrying out array of different habitat and species surveys. Alex holds Natural England Survey Licences for Great Crested Newts, Bats, Hazel Dormice, White Clawed Crayfish and Barn Owls. She also holds Scottish Natural Heritage Licences for bats and great crested newts and Natural Resources Wales Licence for Great Crested Newts, Bats and Hazel Dormice. She holds an undergraduate honours degree in Zoology and a master's degree in environmental management (Landscape and Wildlife Conservation). She has successfully completed courses run by the Chartered Institute of Ecology and Environmental Management (CIEEM), Field Studies Council and the Mammal Society to further her knowledge of protected species and plant identification. Alex is an Associate member of CIEEM, a full member of IES and a Chartered Environmentalist.

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3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. Barnsley Biological Records Centre, the South Yorkshire Badger Group and South Yorkshire Bat Group were contacted for data searches of designated sites and protected species within 2km of the survey area.

3.1.2. The following recent relevant records were returned:

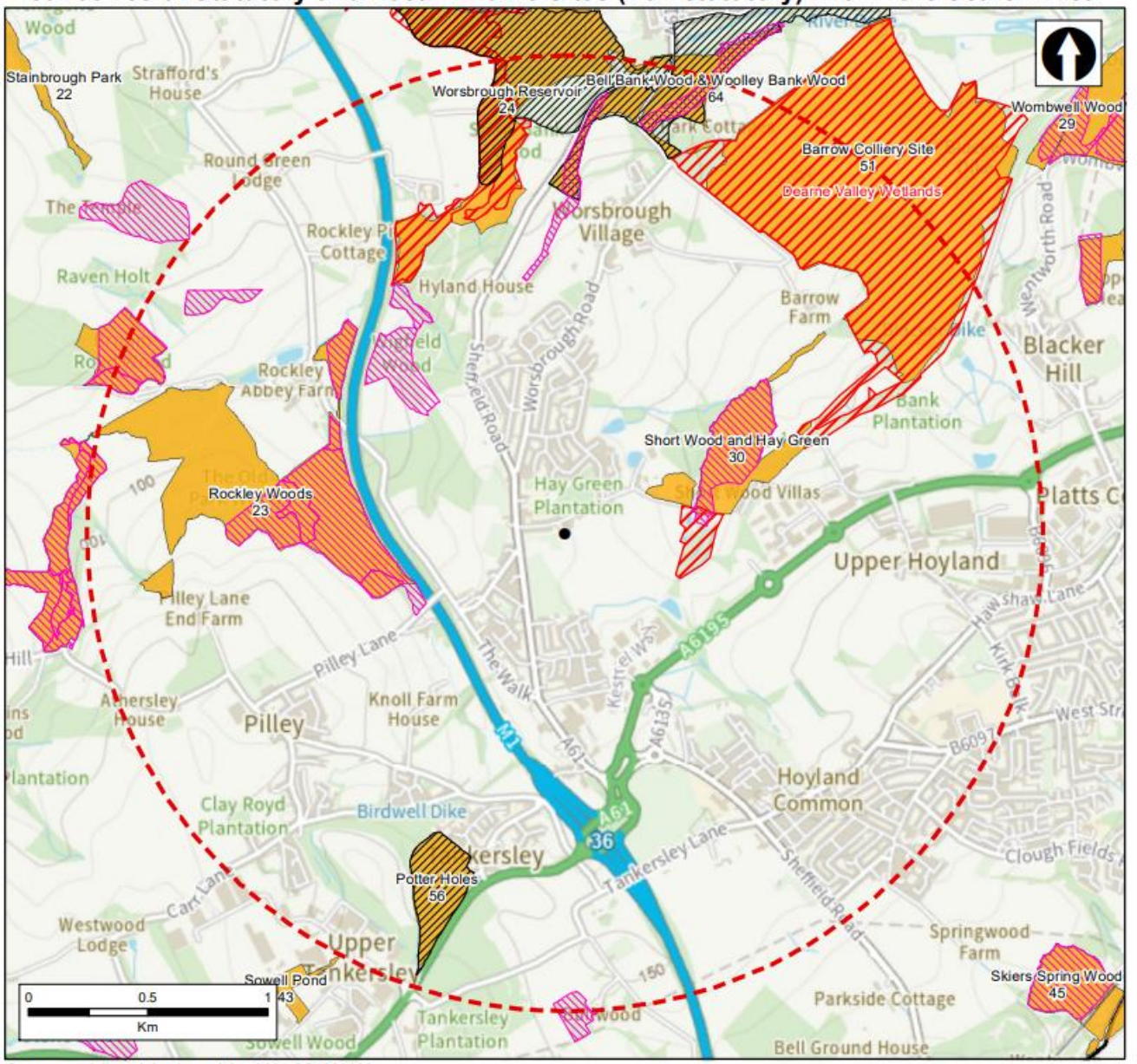
- Three locations with recent records of great crested newts, the closest was approximately 0.5km southeast of the survey area which were recorded in 2014.
- Seven records of grass snake, the closest was approximately 0.6km north of the survey area and was recorded in 2013.
- Seven records of badger within 2km of the survey area; given the sensitive nature of these records, no further information will be provided although none are related to the survey area.
- Common pipistrelle, soprano pipistrelle, daubentons, noctule, brown long eared and myotis were recorded within 2km of the survey area; none of these records were related to the survey area itself.
- Extensive records of hedgehogs within 2km of the survey area including from within the Birdwell area.

3.1.3. There were historic records of water vole and adder; given the age of these records they are not thought to accurately represent the current species distribution.

3.1.4. There were one Sites of Special Scientific Interest, two Local Nature Reserves and six Local Wildlife Sites within 2km of the survey area. None of the sites were within, or adjacent to, the survey area. The closest designated site was Short Wood and Hay Green SSSI/LWS approximately 0.3km east of the survey area. The site lies in the SSSI impact risk zone although the development does not match any of the category descriptions which would cause harm.

3.1.5. The map below highlights the survey area with 2km buffer and the distribution of designated sites.

Boundaries of Statutory and Local Wildlife Sites (non-statutory) Within the Search Area



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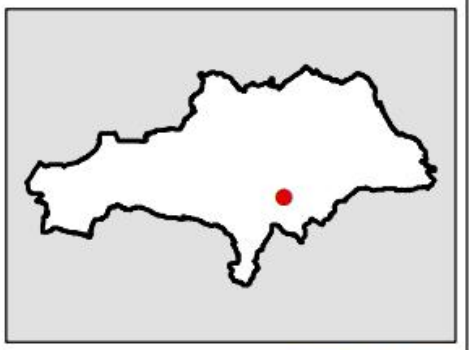
Hay Green Court Birdwell

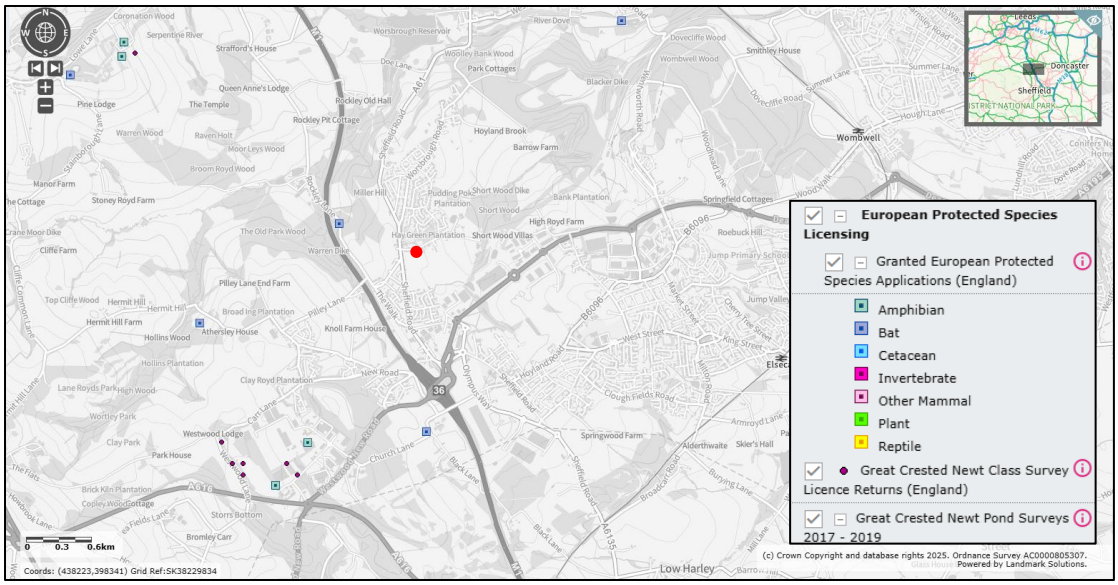
- Centre of search area
- 2km radius
- Ancient Woodland
- LNR NE
- SSSI Natural England
- Barnsley LWS
- Barnsley Boundary



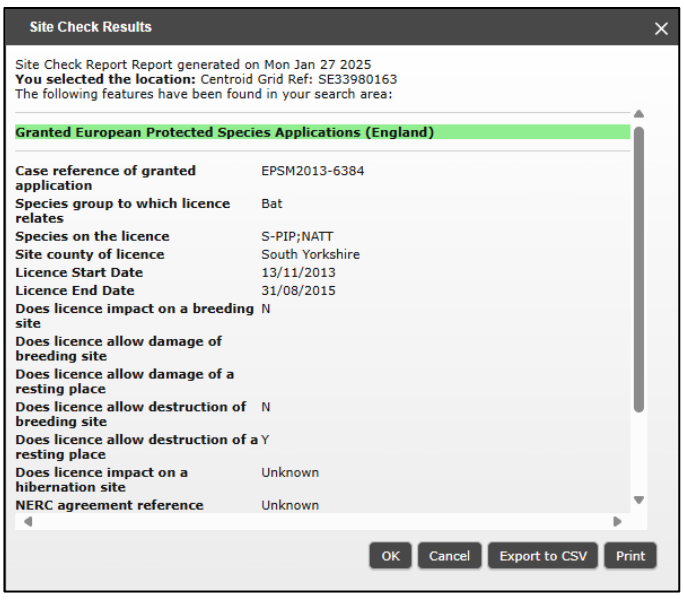
BARNSLEY Metropolitan Borough Council

3.1.6. The data search can be made available to the client upon request but must not be distributed into the public domain.

3.1.7. It should be noted that the Magic Maps website did not hold any additional relevant records, nor were there any European Protected Species (EPS) Mitigation Licences within close proximity to the survey area. The closest granted EPS licence was a bat licence approximately 0.7km northwest of the survey area. The map below highlights the survey area in the red dot and the granted licences and records within the wider area.



3.1.7.1. Information on the nearest granted bat licence can be found in the image below.



3.1.8. An ecology report for another local site, the Rockingham Business Park, was access via the planning portal and was reviewed as part of this assessment. This is commented on in Section 3.4.6.1.

3.2. The Survey Area.

3.2.1. The survey area included a small parcel of land off Hay Green Court in Birdwell. The aerial photograph below highlights the survey area in red.

3.2.2. The area of land to be affected is a small area of land off Hay Green Court comprising of dense scrub, ruderals and scattered trees. The photograph below shows the site.

3.2.3. The survey area was situated within an urban location with residential properties to the northeast and west. Pasture with associated hedgerows was located to the south. A woodland pocket was present beyond the road and properties to the northeast. The aerial photograph below highlights the location of the survey area within the wider landscape.

3.3. Survey Limitations.

This survey was undertaken at a sub-optimal time of year for botanical surveys and as such plant species are likely to have been missed.

3.4. Description of Habitats.

3.4.1. Appendix VI of this report contains an annotated map marked up with the varying primary habitats across the site. Target notes relating to these habitats can be found in Appendix VII. These habitats are listed below, followed by descriptions of each habitat.

- g3c Other Neutral Grassland

- h3 Dense Scrub
- u1c Artificial Unvegetated; Unsealed Surface
- u1b Developed Land; Sealed Surface
- h2b Other Hedgerow
- u1e Built linear feature

3.4.2. g3c Other Neutral Grassland
Secondary Code: 81 Ruderal.

3.4.2.1. There were two strips of managed grassland around the scrub. This habitat was dominated by annual meadow grass *Poa annua*, creeping bent *Agrostis stolonifera*, perennial ryegrass *Lolium perenne*, dandelion *Taraxacum officinale*, creeping buttercup *Ranunculus repens* and common nettle *Urtica dioica*.

3.4.2.2. A full species list can be found in Appendix V.

3.4.2.3. This habitat was assessed as having a moderate condition.

3.4.3. h3 Dense Scrub

3.4.3.1. A large majority of the site was scrub, which was dominated by bramble *Rubus fruticosus*, common hogweed *Heracleum sphondylium*, common nettle *Urtica dioica*, dog rose *Rosa canina* and rosebay willowherb *Chamerion angustifolium*. This has not been classified as bramble scrub because it does not dominate 80% of this habitat.


3.4.3.2. A full species list can be found in Appendix VI.

3.4.3.3. This habitat was assessed as having a poor condition.

3.4.3.4. It should be noted that five small trees have been included in the biodiversity metric. This is due to previous site clearance, within the scrub habitat, since 2022 and therefore they have to be considered within the metric. The surveyor had been to site previously and therefore a condition assessment of moderate was set, and they were classified as small. The photograph below shows these trees which were goat willow *Salix caprea* and ash *Fraxinus excelsior*. These trees have no been secondary coded as they are not currently present although their location has been targeted noted as T1.

3.4.4. u1c Artificial Unvegetated; Unsealed Surface

There was an area of slate alongside the fence and hedgerow.

3.4.5. u1b Developed Land; Sealed Surface

The drive leading up to Hay Green Court was block paving.

3.4.6. h2b Other Hedgerow

3.4.6.1. There were two ornamental hedgerows within the survey area.

3.4.6.2. Hedgerow 1 was a large cherry laurel *Prunus laurocerasus* hedgerow. This was approximately 2-3m wide and 4m in height.

3.4.6.3. Hedgerow 2 was a small well managed Evergreen spindle *Euonymus japonicus* and Viburnum *Virburnum* sp. This hedgerow was approximately 1 – 1.5m in height and 1m in width

3.4.7. u1e Built Linear Feature

Secondary Code: 612 Fence, 114 Dry Stone Wall

3.4.7.1. There was a low-lying dry-stone wall on the eastern boundary of the survey area.

3.4.7.2. There were numerous fences on the western and southern boundaries of the survey area; these were timber, post and rail and Heras fencing.

3.5. Description of Fauna.

3.5.1. No badger setts or their field signs were identified within the survey area.

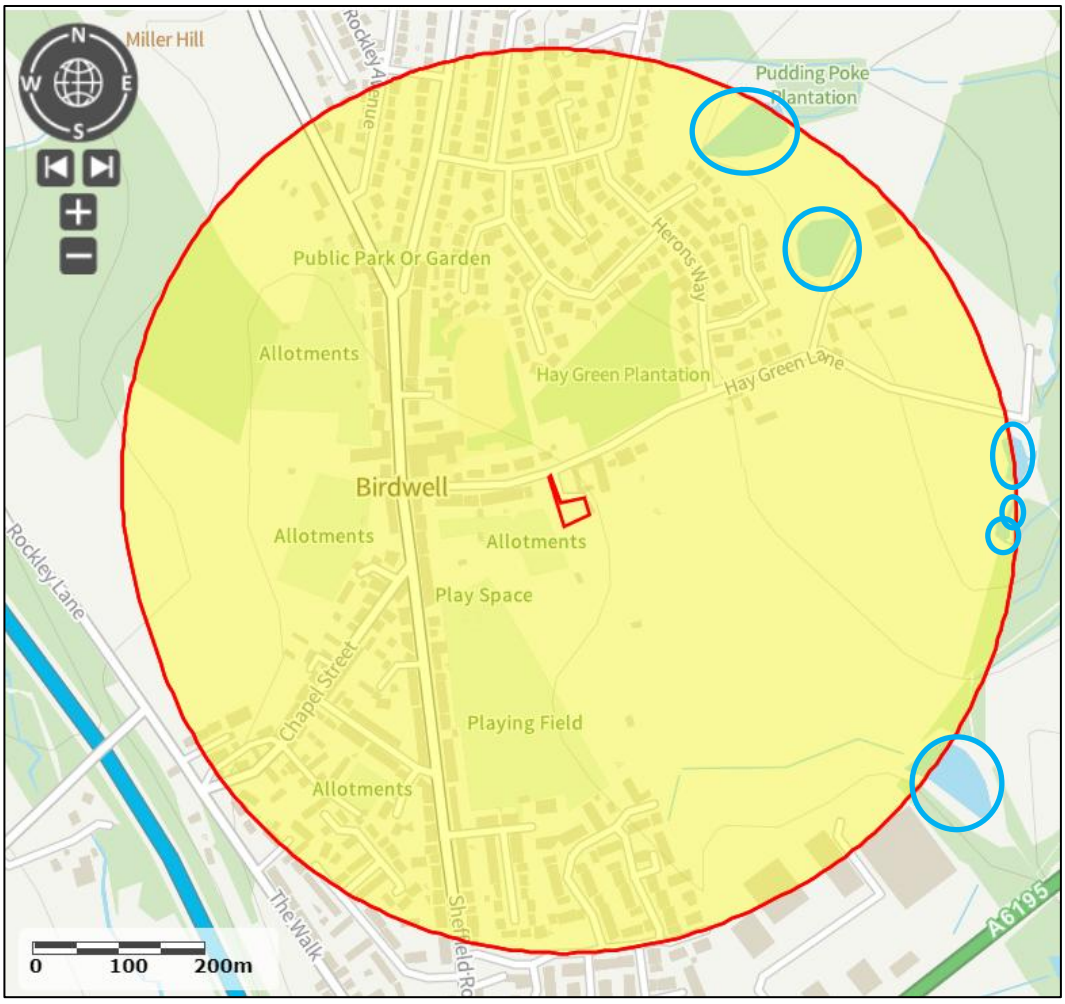
3.5.2. There are no watercourses within the survey area and therefore, no suitable habitat for water vole, otter or white clawed crayfish.

3.5.3. There were no structures identified within the survey area and therefore, no potential for roosting bats within buildings.

3.5.4. There were no trees within the survey area and therefore, no opportunities for roosting bats within trees.

3.5.5. The survey area was assessed as having moderate potential for foraging and commuting bats.

3.5.6. There were six ponds or other water bodies identified within 500m of the survey area, these may provide suitable habitat for great crested newts or other amphibians. These were not visited during the survey due to the land owners being unknown and therefore authorisation to access could not be arranged in advance. The map below highlights the location of the survey area with 500m buffer and the distribution of ponds.



3.5.6.1. FPCR have undertaken previous surveys of these ponds within 500m for the Rockingham Business Park planning application. These surveys were undertaken in April and May 2020 and all aquatic surveys were negative for the presence of great crested newts.

3.5.6.2. The ponds are fragmented from the survey area via pasture land and residential properties. Therefore, taking all of the above information into account it is assessed as highly unlikely great crested newts will be present within the survey area

3.5.7. The vegetation on site provides opportunities for nesting birds during the nesting season, which extends from March to August each year. No evidence of nesting birds was identified during the survey although no full nesting bird survey was conducted as the preliminary ecological appraisal was undertaken outside of the nesting bird season.

3.5.8. The habitat within the survey area offers limited suitability for reptiles as the vegetation is very dense and the site is within an urban location.

3.5.9. The habitat within the survey area is unsuitable for hazel dormouse and there were no substantial areas of woodland to support this species. Furthermore, the site lies outside of their known natural home range and there are no reintroduction schemes within this county.

3.5.10. The survey area lies outside of the known UK range of red squirrel and therefore this species will not be considered further.

3.5.11. The survey area provides suitable habitat for hedgehogs and there are extensive records of hedgehogs within the data search.

3.5.12. No invasive, non-native plant species listed on schedule 9 of the Wildlife and Countryside Act (1981) were identified within the survey area.

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4. ASSESSMENT OF IMPACTS, MITIGATION AND RESIDUAL EFFECTS.

4.1. Designated Sites.

4.1.1. Assessment.

There were no statutory or non-statutory designated sites within, or adjacent to, the survey area. Therefore, no such sites will be directly impacted by the proposals. The survey area does lie within the SSSI impact risk zones for the closest statutory designated site although as it does not match those categories which would cause harm, no further consultation is required.

4.1.2. Mitigation.

No mitigation measures are necessary.

4.1.3. Residual Effects.

The proposed development will have **no negative residual impact** on such sites.

4.2. Habitats.

4.2.1. Assessment.

4.2.1.1. The survey area was comprised of a parcel of land comprising dense scrub, ruderals and scattered trees (previously present).

4.2.1.2. A copy of the Statutory Biodiversity Metric and associated condition assessment sheets are to be submitted with this report. Below is a summary of the baseline biodiversity value for the site.

Pre-Development Habitat Biodiversity Net Gain Calculation

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Other Neutral Grassland	0.011	Medium	Moderate	0.09
Mixed Scrub	0.058	Medium	Poor	0.23
Artificial Unvegetated, Unsealed Surface	0.011	V. Low	N/A	0

Developed Land; Sealed Surface	0.024	V. Low	N/A	0
Urban Tree	0.02	Medium	Moderate	0.16
Total (Excluding Trees)	**0.10**			**0.48**

4.2.1.3. The baseline linear calculations include all habitats that lie within the red line boundary of the survey area. The scores for each habitat and a total are shown below.

Pre-Development Linear Habitat Biodiversity Net Gain Calculation

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Non-Native Hedgerow (H1)	0.035	V. Low	Poor	0.04
Non-Native Hedgerow (H2)	0.019	V. Low	Poor	0.02
Total	**0.05**			**0.05**

4.2.2. Mitigation.

4.2.2.1. The current plans show a large proportion of the scrub is being lost to facilitate the two buildings. On site will be a mixture of vegetated garden and sealed surface.

Post-Development Habitat Biodiversity Net Gain Calculation

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Vegetated Garden	0.04	Low	N/A	0.08
Developed Land; Sealed Surface	0.07	V. Low	N/A	0
Total (Excluding Trees)	**0.10**			**0.08**

4.2.2.2. One length of hedgerow will be retained and one will be lost. The overall linear habitat figures are shown in the table below.

Post-Development Linear Habitat Biodiversity Net Gain Calculation

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Retained:				

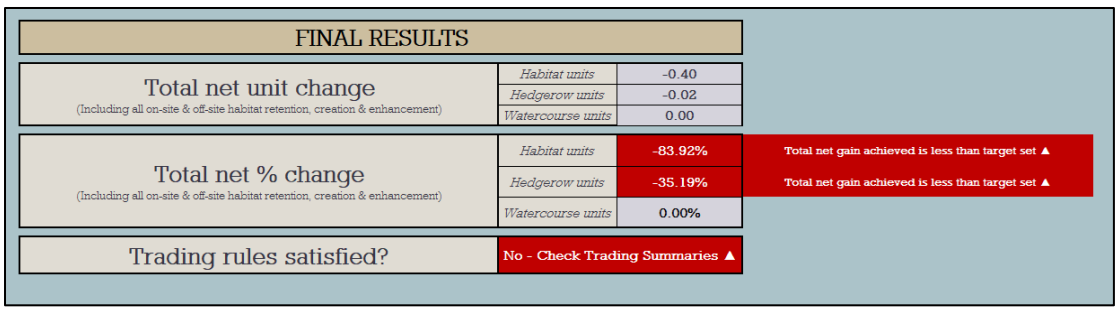
Non-Native Hedgerow (H1)	0.035	V. Low	Poor	0.04
Total	**0.035**			**0.04**

4.2.2.3. No mitigation beyond those created habitats are planned as this would make the development unviable.

4.2.3. Residual Effects.

4.2.3.1. As shown above, the final biodiversity units for the site decrease from 0.48 to 0.08 habitat units which is a loss of 83.92% and the hedgerow units decrease from 0.05 to 0.04 which is a loss of 35.19%

4.2.3.2. The final results, as taken directly from the biodiversity metric, are shown below.



4.2.3.3. The client is committed to achieving the 10% gain by purchasing units / credits for the remaining deficit.

4.3 Species.

4.3.1. Foraging and Commuting Bats

4.3.1.1. Assessment

The site provides suitable habitat for foraging and commuting bats although this is in an urban area which will be well lit. In line with current guidance the survey area was assessed as having moderate suitability for foraging and commuting bats.

4.3.1.2. Mitigation

The proposed plans for the site contains linked residential gardens, which will continue to provide moderate value in line with the Bat Conservation Trust Good Practice Guidelines 4th Edition. In addition, a sensitive lighting scheme with lights facing downwards at eaves height will be in place.

4.3.1.3. Residual Effect

Therefore, with the above in place there will be **no negative residual impact** on foraging and commuting bats by the proposed works.

4.3.2. Nesting Birds.

4.3.2.1. Assessment.

The vegetation within the survey area was assessed as suitable for nesting birds. Any site clearance works carried out during the nesting bird season could have a high impact on nesting birds during the nesting bird season (March to August).

4.3.2.2. Mitigation.

All vegetation clearance and building demolition will be carried out outside the nesting bird season or will be preceded by a nesting bird survey carried out by a suitably experienced ecologist immediately before clearance. Any active nests found will be left undisturbed until the young have fledged.

4.3.2.3. Residual Effects.

Therefore, the planned development will have **no negative residual impact** on nesting birds.

4.3.3. Reptiles.

4.3.3.1. Assessment.

The survey area was assessed as offering limited suitability for reptiles, due to the density of vegetation throughout the survey area and urban location. There is some potential for the proposed works to cause harm to individual reptiles.

4.3.3.2. Mitigation.

The habitat provides low suitability habitat for reptiles, and as such no mitigation measures are required. Regardless, the workforce should take due care during site clearance regardless and if any reptiles are found, these should be left to move of their own accord. In the highly unlikely event a large number of reptiles are identified (5+), the works in that area will cease and the undersigned will be contacted for further advice.

4.3.3.3. Residual Effects.

Therefore, the planned development will have a **no negative residual impact** on reptile species.

3.3.4. ***Hedgehog.***

3.3.4.1. Assessment.

The survey area is suitable for hedgehogs and the boundary vegetation provides suitable areas for hibernating and sheltering. Therefore, hedgehogs could be affected by the proposals both in the initial site clearance and long-term loss of habitat and fragmentation.

3.3.4.2. Mitigation.

Due to the potential presence of hedgehogs within the survey area, the clearance should be undertaken with care and the clearance should be done in a two-stage strip with the first cut being down to 200mm. This should be left for a period of 24 hours before ground level clearance can be undertaken.

3.3.4.3. Residual Impact.

Therefore, the planned development will have **no negative residual impact** on hedgehog.

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5. COMPENSATION AND ENHANCEMENT MEASURES.

5.1. Under the terms of National Planning Policy Framework, biodiversity enhancement measures should be provided within the development.

5.2. Hedgehog highways will be included within all fencing on site where it is reasonably practicable to do so, to allow movement between gardens. This will entail a small gap approximately 13x13cm being cut into either the bottom of the fence or gravel board as shown below. All gates will also be raised; the minimum size for a lifted gate is 15cm. This will ensure that access can remain to all aspects of the site.

5.3. Each access will be marked with an appropriate sign to indicate that it needs to be retained and unobstructed.

5.4. At least 50% of the properties to be created will have a bat box of a suitable inbuilt design should be included in the design plans. The Habibat in-built bat brick, or similar, will be used to ensure roosting opportunities remain post development.

5.5. One pair of swift boxes of suitable inbuilt design will be included in the building designs. The Vivara Pro Woodstone Swift Box, or similar, will be used to ensure nesting opportunities remain post development. This swift nest box is designed to be fitted into a wall, high under the eaves and should be away from doors and windows.

5.6. One inbuilt sparrow terraces of suitable inbuilt design will be included into the building designs, to replace the established vegetation which will be lost and known to support sparrows. 1SP Schwegler Sparrow Terrace or similar, will be used to ensure nesting opportunities remain post development.

5.7. It is recommended that one bee brick is built into an external wall of each of the proposed properties.

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Prepared by:	
Frances Teasdale BSc and Alexandrea White BSc(Hons) MSc ACIEEM MIEnvSc CEnv.	Date: 18th February 2025

Checked by:	
Ruth Georgiou BSc MCIEEM	Date: 20th February 2025

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Appendix I. BAT INFORMATION.

Ecology

There are currently 18 species of bat residing in Britain, 17 of which of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to habitat change and shortage of food, caused by pesticides, as insects are their sole diet.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man-made structures and will readily use these to roost and to rear their young.

Surveys

During walkover surveys, bat roosts can be identified by looking for:

- Suitable holes, cracks and crevices within any building, tree or other structure.
- Bat droppings along walls, window cills, or on the ground.
- Prey remains, such as insect wings.

Further investigations can be made using endoscopes, by carrying out aerial inspections of trees or by conducting bat activity surveys during dusk and dawn over summer months.

Legislation

Bats are protected under Appendix II and III of the Bern Convention (1982), Schedule 5 and 6 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive (some species under Annex II), Annex II of the Conservation of Habitats and Species Regulations (2010) and EUROBATS agreement. Numerous species are also listed

under section 41 of the Natural Environment and Rural Communities Act (2006) making them species of principal importance.

All bats and their roosts are therefore protected in the UK. This makes it an offence to kill, injure or take any bat, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

The UK has designated maternity and hibernacula areas as Special Areas of Conservation (SAC's) under the Habitats Directive. Implementation of the UK Biodiversity Action Plan also includes action for a number of bat species and the habitats which support them.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

Appendix II. NESTING BIRD INFORMATION.

Ecology

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September. It is also worth remembering that some birds nest in trees and scrub, but others are ground nesting or prefer man- made structures or buildings.

Surveys

Nesting bird surveys search for potential nest sites in vegetation, buildings etc. Potential nesting sites are observed over a suitable period of time for bird movements or calling male birds that would indicate the presence of a nest. The presence of a nest can be identified from the field signs without the necessity to see the nest itself, thereby avoiding any disturbance of the nests. The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Legislation

Nesting birds are protected under The Wildlife and Countryside Act 1981.

Part 1. -(1) Of the Act states that: - 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.

Part 1. -(5) of the Act states that: - If any person intentionally: - disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or disturbs young of such a bird, he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

Appendix III. REPTILE INFORMATION.

Ecology

There are five main species of reptile that reside in the UK; Common or Viviparous Lizard (*Lacerta vivipara*); Sand Lizard (*Lacerta agilis*); Slow Worm *(Anguis fragilis*); Grass Snake (*Natrix natrix*) and Adder (*Vipera berus*). The Adder is the only native species that is venomous although this is rarely harmful to humans.

Reptiles occupy a wide range of habitats including woodland, marshes, heathland, moors, sand dunes, hedgerows and bogs. Sand Lizards are confined to moorland and coastal sand dunes where they lay their eggs in the warm sand. The range of the Sand Lizard in the UK is therefore very limited. Slow Worms can be found in a wide variety of habitats throughout Britain and is the most likely reptile to be found in urban and suburban environments.

Maintaining the right body temperature is vital to reptiles' survival. In the morning, they find a warm basking site to heat up their bodies, then later they may move back into the shade because they do not sweat and have to be careful not to overheat. During hot summers, Adders will try to move to damper, cooler sites.

Over winter reptiles will hibernate in burrows or under longs where they are protected from the cold and predators, emerging from February onwards as the weather warms up.

Reptiles generally begin to mate April to May with young born in late July to September. The Common Lizard gives birth to live young, hence the term viviparous, meaning live bearing.

Surveys

Reptile surveys involve the searching of refuge such as logs and stones for any animal sheltering below. Artificial refuge may be laid out on site for the purpose of reptile surveys.

Legislation

Reptiles are protected under Appendix II (sand lizards) and Appendix III (common lizard, slow worms, smooth snake, grass snake and adders) of the BERN Convention (1982), partially protected under Schedule 5 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive and are all listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance.

This makes it an offence to disturb any reptile while it is occupying a structure or place it uses for shelter or protection or to obstruct access to such a place.

Appendix IV. HEDGEHOG INFORMATION.

Ecology

The hedgehog was a common species once widespread throughout the country but it has suffered a major decline due to loss of habitat. They are now found distributed across the UK, but the population increases to the south and east. Hedgehogs are rare in Scotland, Wales and Northern Ireland.

The hedgehog is a small, spiny mammal around 20cm long with a long snout. The back and sides of the hedgehog are covered in 25mm (1") long spines. These are absent from the face, legs and underside, which are covered with coarse, grey-brown fur.

Hedgehogs are highly active and range widely. They need to be able to move freely through a well-connected range of habitats to find food, mates and areas to nest. Studies show that hedgehogs can travel around 2km in a night in urban areas and 3km a night in rural landscapes. A viable population of urban hedgehogs is thought to need 0.9km^2 of well-connected habitat.

Hedgehogs nest year-round and produce different types of nest for daytime resting, breeding and hibernation. Daytime nests are a retreat during the active season, and are often temporary, flimsy and found in areas of rough grassland, loose leaf piles or garden vegetation. Breeding nests are made by females and are used to raise young. They tend to be more robust, like hibernation nests. Winter nests can be used for several months to hibernate through periods of cold weather and low food availability. The sturdiest nests rely on medium-sized deciduous leaves and a structure to hold the leaves in place. Bramble patches, log piles and open compost heaps are common locations for breeding and hibernation.

Hedgehogs are omnivores, but the bulk of their diet consists of macro-invertebrates such as beetles, worms, slugs, earwigs, caterpillars and millipedes. In urban areas, supplementary food in the form of cat, dog or formulated hedgehog food can make up a significant part of their diet. Access to water is also very important.

Surveys

Hedgehogs are nocturnal animals, so despite their spiny appearance they are often difficult to find.

All surveys should be conducted between May and November when hedgehogs are active.

Droppings can be found in grassland, farmland and in gardens. The droppings are crinkly, often studded with shiny fragments due to their diet of insects. They are variable in size, 15-50mm long and 8-10mm thick, blue/black in colour and sweet smelling with a hint of linseed oil.

Footprint tunnels and camera traps can also be used to survey for hedgehogs.

Further survey techniques can also be used to survey for hedgehogs, but these require a survey licence to carry out surveys involving trapping and torch or spotlight searches.

Legislation

The hedgehog is considered an endangered species, but it benefits only from general protection under the Wildlife and Countryside Act 1981. They are listed under Schedule 6 of the Act, which makes it illegal to kill, trap or capture wild hedgehogs, with certain methods listed. They are also listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs and they are a species of 'principal importance' under the NERC Act, which confers a 'duty of responsibility to public bodies'.
However, none of these deal with the issues that are a threat to the hedgehog. The main threat is the increasing loss of habitat, the increasing traffic on our roads and the increasing use of herbicides, in particular those used to kill garden slugs.

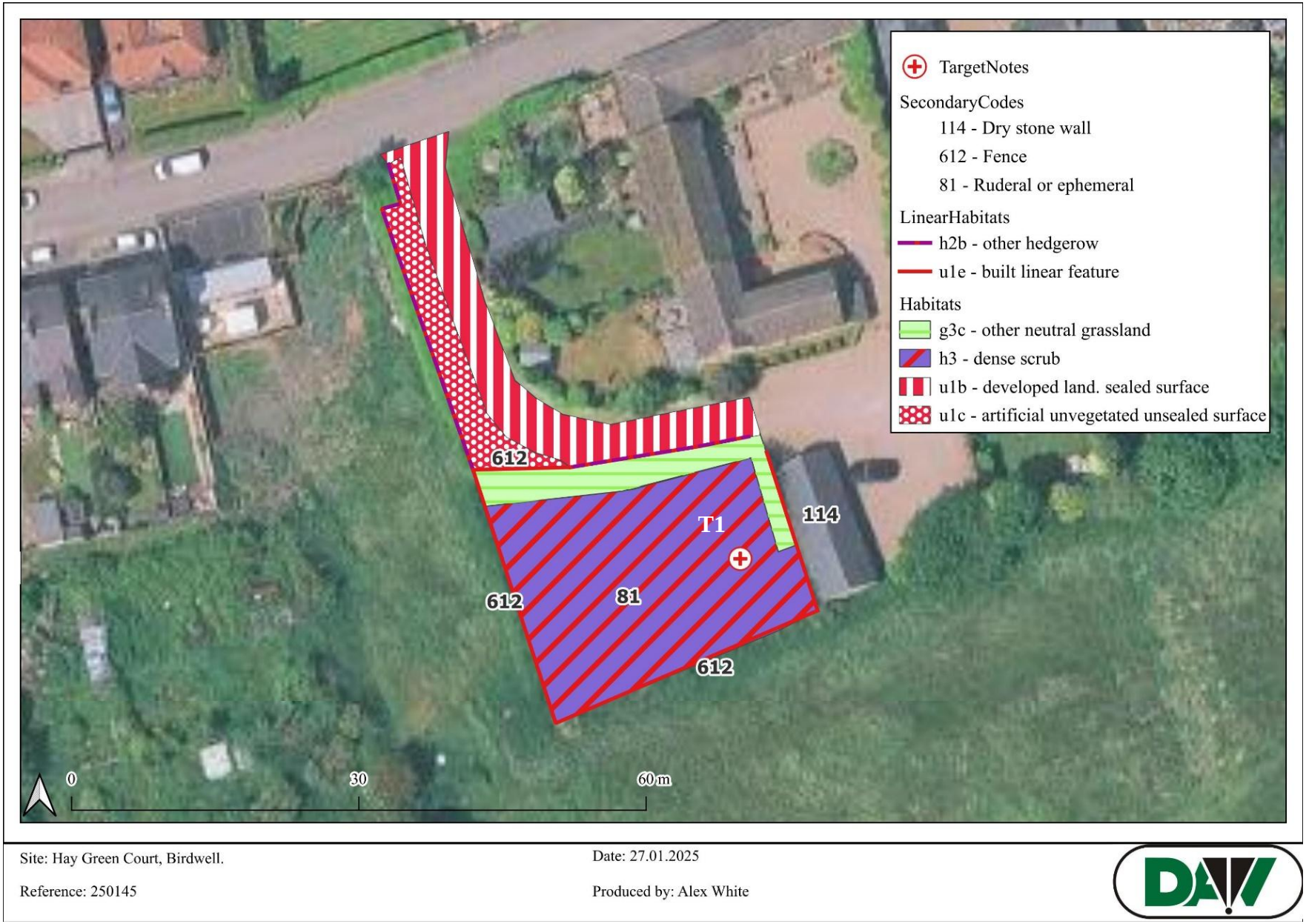
Appendix V. SPECIES LISTS

Other Neutral Grassland	
Scientific Name	**Vernacular**
Dactylis glomerata	Cock's foot
Holcus lanatus	Yorkshire fog
Poa annua	Annual meadow grass
Agrostis stolonifera	Creeping bent
Lolium perenne	Perennial ryegrass
Senecio vulgaris	Groundsel
Taraxacum officinale	Dandelion
Rumex acetosa	Common sorrel
Ranunculus repens	Creeping buttercup
Urtica dioica	Common nettle
Geranium robertianium	Herb Robert
Geranium molle	Dove's foot cranesbill
Lapsana communis	Nipplewort
Stellaria media	Chickweed
Plantago media	Hoary plantain
Plantago lanceolata	Ribwort plantain
Cerastium fontanum	Common mouse-ear
Sonchus oleraceus	Sow thistle
Rumex obtusifolius	Broadleaved dock

Dense Scrub	
Scientific Name	**Vernacular**
Rubus fruticosus	Bramble
Heracleum sphondylium	Common hogweed
Urtica dioica	Common nettle
Rosa canina	Dog rose
Chamerion angustifolium	Rosebay willowherb
***Cirsium* sp.**	Thistle
Arrhenatherum elatius	False oat grass
Ranunculus repens	Creeping buttercup
Galium aparine	Cleavers
Artemisia vulgaris	Common mugwort
Centaurea nigra	Common knapweed
Cirsium vulgare	Spear thistle
Digitalis purpurea	Foxglove

Other Hedgerow	
Scientific Name	**Vernacular**
Hedgerow 1	
Prunus laurocerasus	Cherry Laurel
Rubus fruticosus	Bramble
Hedgerow 2	
Euonymus japonicus	Evergreen spindle
Virburnum Sp.	Viburnum

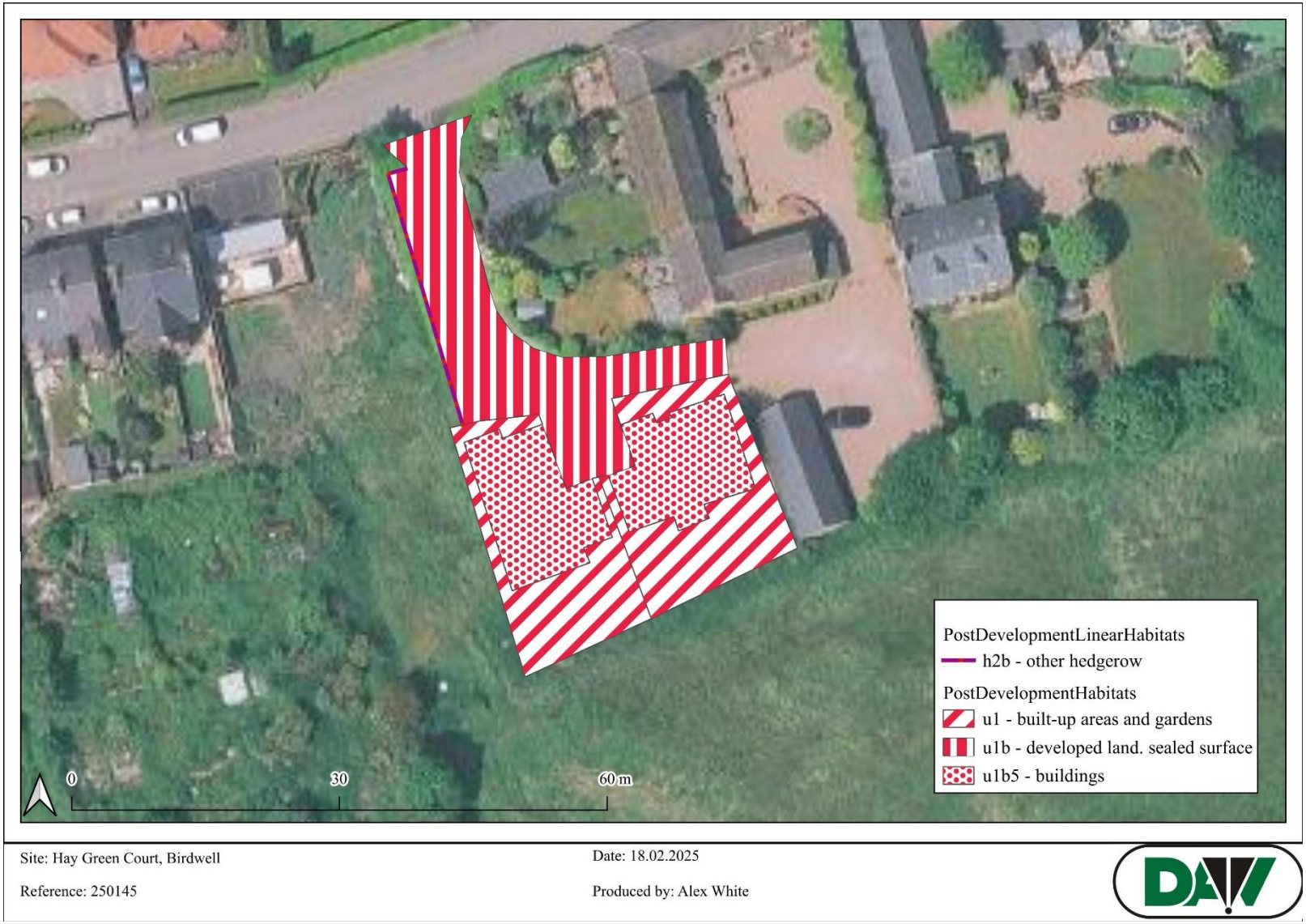
Appendix VI. ANNOTATED MAP OF THE SURVEY AREA.



Appendix VII. TARGET NOTES

T1 - Location of previous tree removal works.

Appendix VIII. POST DEVELOPMENT HABITAT MAP.



Appendix IX. PROPOSED DEVELOPMENT PLAN.