

Birkland Farm, Penistone
Ecological Impact Assessment
26th September 2025



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Site Name: Birkland Farm, Penistone	
Local Authority Barnsley Metropolitan Borough Council	Grid Reference SE 20851 00936
Surveyor Greg Slack MCIEEM	Date of Survey 15/07/2025
Soilscape Slowly permeable wet very acid upland soils with a peaty surface.	Designation of Site None

UK Habitat Classification habitats on Site

Habitats: g3c – other neutral grassland; u1b5 - buildings, u1b6 - other developed land, uc1 – unvegetated, unsealed surface; u1f – sparsely vegetated urban land; h2a5 – species rich native hedgerow

Secondary codes: 33 line of trees.

Protected/Notable Species, Constraints on Site

Bats, birds (including barn owl), and potentially also badger, hedgehog, common amphibian species, and an expected slightly higher than average diversity of invertebrate species.

1. Summary

1.1.1 This Ecological Impact Assessment for a site at Birkland Farm, Penistone, was commissioned by the client James Shaw on 13th June 2025. The assessment was prepared to inform a planning application for the demolition of two barns, outbuildings, a kennels, and woodstore, and the construction of two new dwellings with associated gardens.

1.1.2 The site covered approximately 0.55 hectares. Habitats recorded within the site comprised other neutral grassland, sparsely vegetated land, species-rich native hedgerows, a short line of trees, hard standing, and developed land. The site was used by common bird species (including barn owl), hedgehogs, foraging bats, and common invertebrates. Amphibians may have used the site occasionally, but great crested newts were not considered likely. Overall, the habitats and species present were assessed as being of up to local value.

1.1.3 The likely unmitigated impacts were:

- Loss of approximately 0.2 hectares of neutral grassland.
- Increase in garden land and new native hedgerow.
- Damage to retained trees and hedgerows.
- Loss of bird nesting habitat and potential removal of active nests.
- Loss of potential bat roost features and risks from unsafe roofing membranes.
- Disturbance, killing or injury of amphibians during site clearance.
- Loss of potential foraging habitat for hedgehogs and badgers.
- Increased lighting affecting bats, nocturnal birds (including barn owl), and hedgehogs.
- Biosecurity risks from imported soils and plants.

1.1.4 Mitigation and enhancement measures were recommended and included:

- Tree and hedgerow protection following best practice.
- Use of bat-safe roofing membranes.
- Timing of demolition to avoid the bird nesting season or checking for active nests beforehand.
- Precautionary methods to protect amphibians during construction.
- Creation of a new wildlife pond.
- Extension of the native hedgerow along the northern boundary.
- Sowing of lawns with fine grasses and wildflowers.
- Installation of integrated bat and bird boxes within the new dwellings.
- Sensitive lighting design to protect nocturnal wildlife.

1.1.5 The proposed development was predicted to result in a net loss of 0.98 habitat units (a 56% loss) but a gain of 0.14 hedgerow units (a 16.39% gain). To achieve biodiversity net gain overall, habitat units would be purchased from an approved third-party provider.

1.1.6 The survey and this report were considered valid for 24 months from September 2025. After this period, Middleton Bell Ecology should be contacted to confirm whether update surveys are required.

2. Introduction

- 2.1.1 This Ecological Impact Assessment for a site at Birkland Farm was commissioned by James Shaw on 13th June 2025. The survey was commissioned to inform a planning application for the replacement of a stables, barn, and outbuildings with a dwelling. The proposed layout is shown in Appendix 1.
- 2.1.2 The red line boundary was approximately 0.55 ha in size. The development site was located approximately 4.3 km southwest of Penistone, South Yorkshire (Figure 1).

Figure 1. The site location as indicated by red line boundary shown



- 2.1.3 The purpose of this report is to present the findings of a desk-based study, UK Habitat Classification survey, and assessment of the site's suitability to support protected or notable species. The report includes consideration of the value, likely impacts and effects of the proposed development to protected and notable species and habitats. Detail on suitable mitigation and compensation measures necessary to avoid or reduce these impacts are included within the report.
- 2.1.4 Key legislation relating to designated sites, protected species, and habitats is detailed in Appendix 2. The implications of legislation are detailed in the body of the report where applicable.

3. Site Description

- 3.1.1 The survey area consisted of an access track running along the northern edge of the site to a barn (Building 3), stables (Building 4), and outbuildings (Building 1 and Building 2). To the southwest of the buildings an area of cleared land was present, and to the east a horse grazed paddock. A tree line was present to the south of the cleared area of land, and hedgerows lined the access track.
- 3.1.2 The site falls within National Character Area 51: The Dark Peak. This National Character Area comprises large-scale sweeping moorlands, in-by-pastures enclosed by drystone walls, and gritstone settlements. The area supports internationally

important mosaics of habitats including blanket bog, upland heathland, upland oak woodland and hay meadows. The predominantly peat soils also provide other significant benefits, when in good condition, by storing significant volumes of carbon and water. With its high rainfall and impervious rocks it is an important area for water supply, with many reservoirs supplying water to nearby conurbations.

- 3.1.3 The Soilscales resource¹ shows the site to have slowly permeable wet very acid upland soils with a peaty surface.

4. Methodology

4.1 Data Consultation

- 4.1.1 Barnsley Biological Records Centre were to request the following information for locations within a 2 km radius of the site:

- Protected and notable species records.

- 4.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was also undertaken to determine the following for locations within a 2 km radius of the site:

- The boundaries of statutory designated sites of nature conservation interest.
- The locations of historic European Protected Species (EPS) licences granted by Natural England.

4.2 Field Survey

UK Habitat Classification Survey

- 4.2.1 The site was surveyed on 15th July 2025 using UK Habitat Classification habitat survey methodology (UKHab Ltd, 2023) by Greg Slack MCIEEM. Greg is a competent ecologist with more than 15 years' experience and holds a Natural England bat survey licence (WML-A34-Level 4, 2017-28068-CLS-CLS) and Natural England great crested newt *Triturus cristatus* survey licence (CL08-Level 1, 2015-18073-CLS-CLS).
- 4.2.2 The surveyor methodically covered the site, searching for notable, rare or scarce plant species and evidence of protected species including bats and species of nature conservation importance (including a search of suitable features for signs of bats). The interior of the buildings was checked with particular attention paid to the roof void present in the dwelling. Features of interest are presented on the UK Habitat Classification plan, using Secondary Codes and Target Notes.
- 4.2.3 Aerial photographs (Google Earth, Bing Mapping, and ESRI imagery) and Ordnance Survey mapping were studied to consider the wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This is particularly useful for identifying wildlife corridors and ponds.

¹ <http://www.landis.org.uk/soilscales/> [accessed 6th August 2025]

Nocturnal Bat Survey

4.2.4 One nocturnal survey was completed on 23rd July 2025. Four surveyor positions were covered during the survey with unsupervised cameras covering the position that weren't manned. The night vision equipment used and surveyor coverage is shown in Table 2. The surveyor locations are shown on Figure 2.

Figure 2. Surveyor Positions



Table 2. Surveyors and night vision equipment used during the surveys

Surveyor Position	15 th July 2025
1.1	Unsupervised Pixfra Arc A613 Thermal Imaging Monocular
1.2	IW - Panasonic VX980
3.1	GS - Guide TK612 Gen2 Thermal Imaging Monocular & Canon XA10
3.2	DW - Panasonic VX980

4.2.5 The camera footage from locations covered by surveyors was reviewed as required to check and confirm the observations made by the surveyors. The camera footage from the unsupervised position was initially analysed by Wildlife Imaging Systems. Their software identified all movement (frame by frame) within the videos and produced a set of images showing the movement traces for each 30 seconds of video. These images were then reviewed by Greg Slack and where the image identified a trace that could potentially have been a bat flight, the relevant section of the video was also reviewed. An example image produced by the software is shown in Plate 1.

Plate 1. WIS composite image of a foraging common pipistrelle *Pipistrellus pipistrellus* over Building 1 & 2 viewed from Surveyor Location 1.1



4.2.6 The nocturnal survey was carried out in compliance with relevant Bat Survey Guidelines (Collins 2023). The survey continued from 15 minutes before sunset until 1.5 hours after sunset.

4.3 Method of Assessment

4.3.1 In line with CIEEM guidelines (CIEEM, 2017) the survey results were used to identify any ecological constraints to the proposed development, any further surveys, and any mitigation measures likely to be required. Opportunities for ecological enhancement measures were also included where possible.

4.3.2 The value and sensitivity of ecological features present on site were determined based on the guidance provided within 'Guidelines on Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018). Individual ecological receptors (habitats and species that could be affected by the development) were assigned a geographic level of importance for nature conservation. The highest level is international, decreasing through national, regional, county, local and lastly site importance.

4.4 Biodiversity Calculation

4.4.1 The Statutory Biodiversity Metric (Defra, 2023) was used to calculate the ecological impact of this scheme within the context of the red line boundary. This metric uses habitat as a proxy for wider biodiversity with different habitat types scored according to their relative biodiversity value. This value is then adjusted depending on the condition and location of the habitat, to calculate 'biodiversity units'. The Statutory Biodiversity Metric incorporates similar but separate calculations for habitats that require a different method of measurement such as hedgerows, lines of trees, rivers, streams and street trees. Calculations are undertaken in a purpose designed spreadsheet, which provides the main output of the process.

4.5 Survey Limitations

4.5.1 During the initial site inspection rain showers disrupted the site visit. Although not considered to have impacted the identification of habitats or their suitability to support protected and notable species, it was notable that there was a lack of bird activity. This is considered in the bird results section of the report.

5. Ecological Baseline

5.1 Summary

- 5.1.1 The survey area consisted of an access track running along the northern edge of the site. This serviced a barn and stables to the south, (Building 3 & 4), and outbuildings (Building 1 and Building 2) on the northern site boundary. To the southwest of the buildings an area of cleared land was present, and to the east a horse grazed paddock. A tree line was present to the south of the cleared area of land, and native species rich hedgerows lined the access track (Plate 2). A small woodland copse lay outside the planning application boundary to the west.

Plate 2. The approximate survey area, viewed from the south



- 5.1.2 The survey area was considered potentially suitable for use by badger *Meles meles*, hedgehog *Erinaceus europaeus*, foraging bats, birds (including barn owl *Tyto alba*), common amphibian species (but not great crested newts *Triturus cristatus*) and common invertebrate species.
- 5.1.3 The species rich hedgerows, populations of bats, birds, and invertebrates were considered to potentially be of up to local importance. All other habitats and species present were considered to be of no greater than Site level importance.
- 5.1.4 A plan of the habitats recorded within the site is given as Appendix 3 with a list of plant species recorded during the survey given in Appendix 4.

5.2 Designated Sites

- 5.2.1 South Pennine Moors Special Area of Conservation, which overlapped with The Peak District Moors (South Pennine Moors phase 1) Special Protection Area and the Dark Peak Site of Special Scientific Interest was located c. 1.1 km west-southwest of the site. An additional two Sites of Special Scientific Interest and six Local Wildlife Sites were also present within the 2 km desk study area. A summary of the sites present is included in Table 1.

Table 1. Designated sites

Designation	Name	Description	Distance and direction to site
Special Area of Conservation	South Pennine Moors	Designated for its dry heaths, blanket bogs, and 'old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> ' (hard fern).	1060 m west-southwest
Special Protection Area	Peak District Moors (South Pennine Moors phase 1)	Qualifying species include approximately 2 – 3 % of the breeding GB population of merlin, golden plover, and short-eared owl (as determined between 1990 – 1998).	
Site of Special Scientific Interest	Dark Peak	Large area of moorland overlapping with the South Pennine Moors Special Area of Conservation and Peak District Moors (South Pennine Moors phase 1) Special Protection Area.	
	Little Don Stream Section	Designated for its geological importance.	1340 m southeast
	Spring Meadows Alderman's Head & Cow Croft Meadows	Area (11 fields) of unimproved neutral grassland managed as traditional hay meadow.	1385 m east
Local Wildlife Site	Western Moors	Area of upland heath and important area for water vole <i>Arvicola amphibius</i> .	410 m southwest
	Hartcliff Hill	Hill top comprising dry acid dwarf shrub heath dominated by heather <i>Calluna vulgaris</i> with increasing colonisation by tree growth.	1285 m northeast
	Brock Holes	An area of species poor improved grassland, scattered scrub and trees on the south-facing valley slope of the Little Don.	1405 m east
	Hollin and Spring Woods	Broadleaved woodlands on land sloping south to the Little Don.	1640 m east
	Upper Little Don	The upper reach of the Little Don tributary characterised by woodland and riparian habitats transitioning from moorland-fed streams.	595 m southeast
	Midhope Reservoir	A quiet upland reservoir within the Little Don valley,	1620 m southeast

Designation	Name	Description	Distance and direction to site
		supporting woodland and water-edge habitats managed to benefit disturbance-sensitive wildlife. The site provides refuge for raptors and enhances ecological connectivity.	

5.3 Habitats

g3c – other neutral grassland

- 5.3.1 The area of grassland along the verge of the access track, and within the paddock was considered to be other neutral grassland (Plate 3 and 4).

Plate 3. The paddock in the southern half of the site



Plate 4. The grass verge



- 5.3.2 The grass species present comprised abundant red fescue *festuca rubra*, occasional perennial rye grass *Lolium perenne*, and common bent *Agrostis capillaris*. The herb species present comprised locally abundant creeping buttercup *Ranunculus repens*, occasional curled dock *Rumex crispus*, and dandelion *Taraxacum* Agg., and rarely occurring ribwort plantain *Plantago lanceolata*, autumn hawkbit *Scorzoneroides autumnalis*, Yorkshire fog *Holcus lanatus*, broad leaved dock *Rumex obtusifolius*, bramble *Rubus fruticosus*, common nettle *Urtica dioica*, spear thistle *Cirsium vulgare*, and creeping thistle *Cirsium arvense*. The moss species present comprised springy turf moss *Rhytidiadelphus squarrosus*.
- 5.3.3 The habitat was considered to be in poor condition as assessed against the Statutory Biodiversity Metric Condition Assessment criteria (DEFRA, 2023). The area had been grazed by horses. The habitat was not considered to pass Criterion A – requiring the grassland to be a good example of its habitat type. This Criterion is essential for the habitat to achieve moderate or good condition. It would also have failed all other criteria with the exception of Criterion D (cover of bracken), and if both the verge and paddock were taken together it would also have passed Criterion B (varied sward height).

u1f – sparsely vegetated urban land

- 5.3.4 The area of land at the southwest corner of the site comprised an area of sparsely vegetated urban land (Plate 5). The species present were indicative of the land having been relatively recently cleared. This is backed up by a Google Earth image of the site taken in March this year (Plate 6).

Plate 5. The area of sparsely vegetated urban land looking south along the western edge of the site



Plate 6. Google Earth image of the site dating from 4th March 2025



- 5.3.5 The vegetation at the time of survey comprised locally abundant dock *Rumex* sp., creeping thistle, and rosebay willowherb patches with frequently occurring pineapple weed, occasionally occurring broad leaved dock, dandelion, and common nettle, and rarely occurring great willowherb *Epilobium hirsutum*, bulrush *Typha latifolia* and young damson *Prunus* trees.
- 5.3.6 The area had previously comprised a garden. This is backed up by a photograph of this area (Plate 7) contained within a previous planning application in 2023 (Ref: 2023/0888). The application was for the Lawful development for existing use of an agricultural building within the site as a dwelling. The photograph clearly shows a well maintained garden with a lined pond.

Plate 7. The garden area that is now sparsely vegetated urban land – redaction in the centre covering the images of people present



5.3.7 At the time of clearance the client identified that the pond was dried up. They reported that a second pond had been present but that this was actually an open cesspit (Plate 8).

Plate 8. The open cesspit that had been present in the southeast corner of the now sparsely vegetated urban land prior to clearance



Secondary Code 32 – Individual Trees

- 5.3.8 An arboricultural assessment of the site had been undertaken for a previous planning application in 2024 to allow the buildings within the site to be converted to a builder's yard (Ref: 2025/0013). The arboricultural assessment had identified the presence of 23 individual trees and seven groups of trees across the site. The location of these trees is shown on Figure 3. In line with guidance on recording individual trees in private gardens as part of Biodiversity Net Gain assessments only the medium sized trees have been included (Defra, 2023). These comprised only Group G005 (although G001, G003, and G004 comprise the two hedgerows and the tree line included in the assessment).
- 5.3.9 G005 was recorded as a group of semi-mature ash, sycamore and hawthorn. The notes on the arboricultural assessment note that multiple trees within this group have ivy established in their crowns. The assessment notes that there were 13 stems (which in the absence of additional clarification is taken to mean 13 trees) with an average diameter at breast height of 32 cm meaning they fell just within the medium sized tree threshold. The trees appear likely to have passed all condition criteria with the exception of Criterion C (the tree, or more than 50 % of the trees in the block are mature) resulting in the trees achieving 'Good' condition.
- 5.3.10 At the time of survey ten trees remained in this area although only five of these were medium sized (four ash and one sycamore), the remaining five were small. At the time of survey they were considered to comprise part of the line of trees (Secondary Code 33). For the purposes of the biodiversity net gain assessment it is assumed that the

cleared trees comprised three medium sized individual trees with the remaining ten trees accounted for as part of the line of trees along the southern boundary.

Secondary Code 33 – line of trees

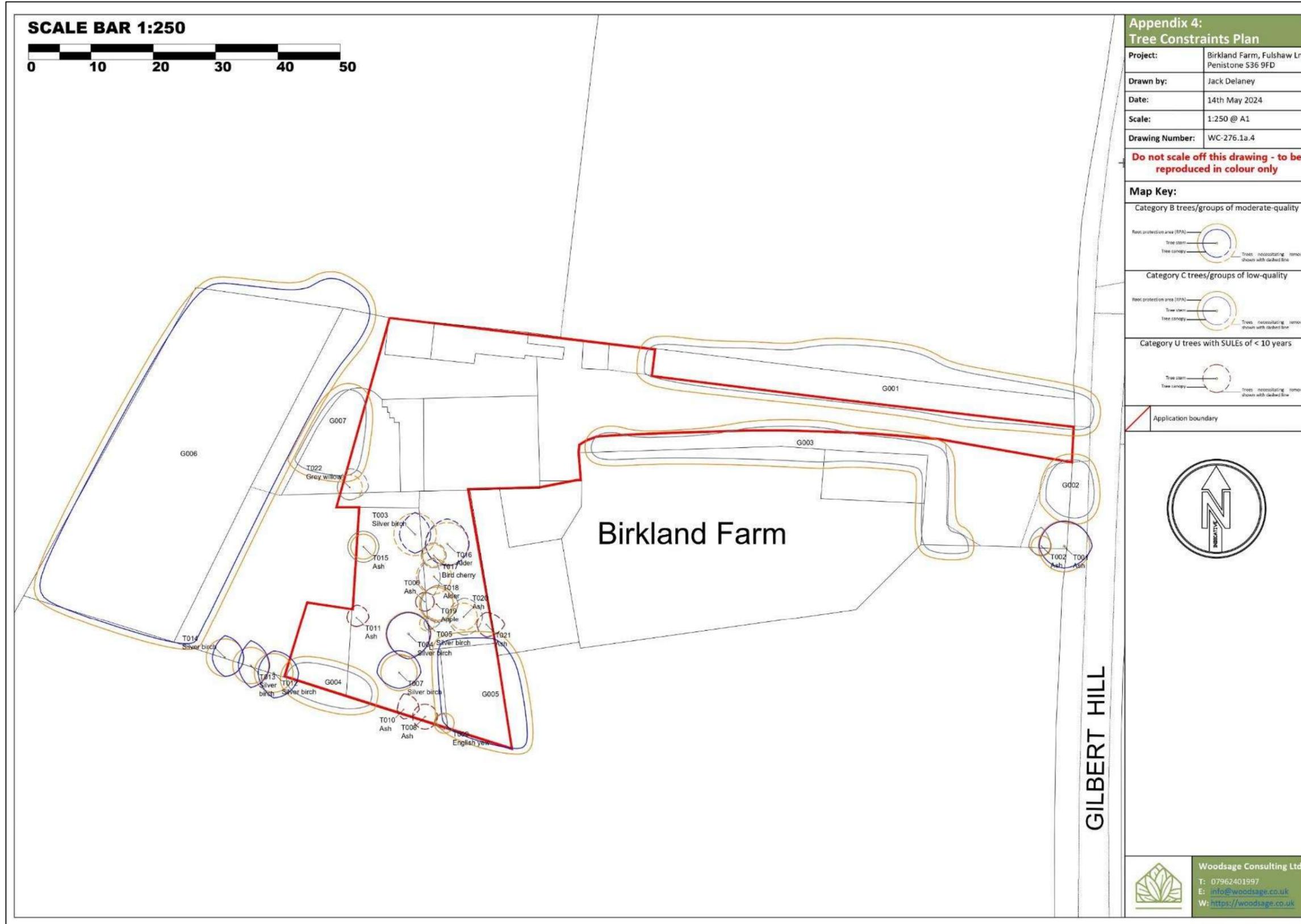
- 5.3.11 A short line of trees (57 m in length) was present on the southern site boundary (Plate 9).
- 5.3.12 The line of trees comprised abundant silver birch *Betula pendula*, and rarely occurring ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus* and cultivar apple *Malus* (Plate 9). The tree line was approximately 8 m high.

Plate 9. Tree line at the southern site boundary viewed from the northwest



- 5.3.13 The tree line was considered to be in poor condition, passing only condition Criteria A (70 % of the trees are native species), and E (95 %, or more, of the trees are in a healthy condition).

Figure 3. Trees present within the Birkland Farm Site during the Arboricultural Impact Assessment undertaken in May 2024



H2a – Species rich native hedgerow

- 5.3.14 Two species rich native hedgerows (H1) were present within the site, located on either side of the driveway/access track.
- 5.3.15 Hedgerow H1 was located to the north of the track. It was c. 6 m tall and 1.5 m wide (Plate 10). The woody vegetation comprised occasional hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, goat willow *Salix caprea*, ash and silver birch with rarely occurring elder *Sambucus nigra*, field maple *Acer campestre*, and crack willow *Salix fragilis*.

Plate 10. Hedgerow H1 viewed from the southeast



- 5.3.16 Hedgerow H2 was located to the south of the access track. It was c. 6 m tall and 2 m wide (Plate 11). The woody vegetation comprised occasional goat willow, field maple, and ash, with rarely occurring cherry laurel *Prunus laurocerasus*, sessile oak *Quercus petraea*, crab apple, dog rose *Rosa canina*, a species of cherry, elder, hazel, and *Viburnum tinus*.

Plate 11. Hedgerow H2 viewed from the north



- 5.3.17 Both hedgerows were considered to be in good condition with H1 failing only Criterion A2 and H2 failing only Criterion C1.

5.3.18 They also both met the criteria for importance under the Hedgerow Regulations as they were considered likely to be at least 30 years old and contained at least seven native woody species.

u1b5 - buildings

5.3.19 Four buildings were present within the site, a terrace of outbuildings (B1), an open fronted store (B2), and two large barns (B3 & B4). A temporary portacabin structure was also present (TN2, Appendix 3).

Building description - Building 1 Outbuildings

5.3.20 The outbuildings consisted of five sections of building built in a terrace (Plate 12). All were single storey and each had presumably been constructed at a different time. They had been formed using a variety of materials including concrete blocks, and timber frame with corrugated sheet metal, and wooden cladding. The roof of each section was single pitched with the lowest point located at the northern edge (rear). The roofs were again predominantly covered with corrugated fibre-cement boards, or corrugated metal sheets. Bargeboards and fascias were present at the eaves.

5.3.21 No roof void was present inside the buildings and the underside of the roof covering could be viewed from below (Plate 13).

Plate 12. The south elevation of B1



Plate 13. The interior of B1



Building description - Building 2 Kennels and Wood Store

- 5.3.22 B2 was a kennels and open-fronted wood store (Plate 14). The building comprised a wooden frame covered with wooden cladding and in the case of the kennels, with metal mesh doors /panels on the front. The single pitch roof was covered with corrugated fibre-cement boards.

Plate 14. The southern elevation of B2



Building description – Building 3 Large Barn

- 5.3.23 Building 3 was a large barn constructed from brick, concrete blocks and steel framework and in some areas wooden framework, with Yorkshire Board cladding. The multi-pitched roof was covered with corrugated fibre-cement boards and a fake pantile sheet which had been coated in bitumen (Plate 15 and 16). Fibre-cement capping was present over the gables and fascia boards were present at the eaves.
- 5.3.24 At some point in the past a static caravan had been moved into the barn although at the time of survey it was unused with the barn currently used as storage for aggregates and other materials. The non-native invasive species Virginia Creeper *Parthenocissus quinquefolia* was growing over the northeast corner of the building (Plate 15). This

plant species is listed on Schedule 9 of the Wildlife and Countryside Act (1981 as amended) making it an offence to plant it or allow it to spread in the wild (Appendix 2).

Plate 15. Building 3 viewed from the northeast



Plate 16. Building 3 viewed from the northwest



Building description – Building 4 Wooden Framed Barn

5.3.25 Building 4 was a barn which connected to Building 3 to the north. This building had been constructed from a wooden frame and covered with corrugated metal sheets. The roof was effectively flat and also covered with corrugated metal sheets (Plate 17).

Plate 17. Building 4 from the east



Plate 18. The interior of Building 4



5.3.26 No condition criteria apply to this habitat type.

5.3.27 The suitability of the buildings to be used by protected or notable species is considered in Section 5.4.

u1b6 – other developed land

5.3.28 Three small areas of hard standing were present to the east of the buildings (Plate 19).

Plate 19. Area of hard standing adjacent to Building 3 (with Building 4 in the background)



5.3.29 No condition assessment criteria are applicable to this habitat type.

u1c – artificial unvegetated unsealed surface

5.3.30 The access track between the buildings and Gilbert Hill Road to the east, along with part of the area adjacent to the woodland, comprised bare ground (Plates 20 and 21). The access track consisted of compacted gravel (Plate 20), while the area adjacent to the woodland appeared to have been more recently cleared.

Plate 20. The access track viewed from the east



Plate 21. The unvegetated area at the western edge of the site, next to the adjacent woodland



5.3.31 No condition assessment criteria are applicable to this habitat type.

u1f – sparsely vegetated urban land

5.3.32 A large area of sparsely vegetated urban land was present in the southwest corner of the site (Plate 22). The land had been relatively recently cleared but colonising vegetation had started to regenerate. A mound of earth was present in the centre of this area (Plate 23).

5.3.33 The plant species present comprised frequently occurring pineapple weed, locally abundant dock species, creeping thistle, and rosebay willowherb *Chamerion angustifolium*, occasionally recorded dandelion, common nettle, broad leaved plantain *Plantago major*, and broad leaved dock, and rarely occurring greater willowherb, and bulrush.

Plate 22. An area of sparsely vegetated land adjacent to Building 3



Plate 23. Pile of earth in the centre of the sparsely vegetated land.



5.3.34 This habitat was considered to be in poor condition, it was not considered to be a good example of the habitat type, and the locally abundant creeping thistle and docks, and occasionally recorded common nettle were together considered to make up more than 5 % of the vegetative cover (and were considered to be species indicative of suboptimal condition). Therefore the habitat was considered to fail Condition Criteria A and C (Defra, 2023).

5.4 Species and Species Groups

Badger

5.4.1 Badger *Meles meles* records are confidential and are not included in detail here. No badger records were present within or adjacent to the site. No badger signs were identified during the survey and no setts were recorded within the site or accessible areas within the surrounding 30 m.

5.4.2 Badgers can have relatively large territories, it is possible that badgers use the site occasionally as part of their range.

Hedgehog

5.4.3 A total of five hedgehog *Erinaceus europaeus* records were returned by the data search. The two closest records were located c. 510 m to the south and dated from 2017 and 2018.

5.4.4 No hedgehog signs were identified during the survey, but the habitats were considered broadly suitable for use by this species.

Bats

5.4.5 Two bat records were returned by Barnsley Biological Records Centre with 143 records returned by South Yorkshire Bat Group. The bat species within the records search comprised common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus*, Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, Brandt's bat *Myotis brandtii*, noctule *Nyctalus noctula*, and Leisler's bat *Nyctalus leisleri*. Additional records of bats identified as either whiskered bat *Myotis mystacinus*, Brandt's bat, or Alcahoie bat

Myotis alcathoe; or identified to genera (*Pipistrellus*, and *Myotis* bats) or unidentified bat species were also returned.

- 5.4.6 The closest record was of a common pipistrelle maternity roost located c. 515 m south-southeast of the site with a second common pipistrelle maternity roost location used presumably by the same maternity colony located c. 550 m southeast of the site. The records dated from 2008/2009.
- 5.4.7 No European Protected Species Licence applications for bats were identified within the 2 km search area.
- 5.4.8 Although relatively exposed and therefore windy site, the habitats within the site were considered to be of above average suitability for use by foraging bats due to the rural location, presence of extensive grassland, adjacent small woodland, and the lack of light pollution in the area.
- 5.4.9 Buildings 1 and 3 were identified as having low bat roost suitability, with Buildings 2 and 4 identified as having negligible suitability. The nocturnal bat survey undertaken in July 2025 did not identify the presence of any bat roosts within the buildings although at least four species (common pipistrelle, soprano pipistrelle, brown long-eared bat *Plecotus auritus*, and at least one *Myotis* bat species) were recorded within the site. The full survey results are included in Appendix 5.

Birds

- 5.4.10 A total of 2323 records of 161 bird species were returned by the local records centre. None of the records were for the site itself. However the closest records were located in adjacent fields. These comprised records of lapwing *Vanellus vanellus* and skylark *Alauda arvensis* to the south, and skylark to the northeast. Additionally records of curlew *Numenius arquata*, dunlin *Calidris alpina*, pied flycatcher *Ficedula hypoleuca*, redstart *Phoenicurus phoenicurus*, twite *Linaria flavirostris*, skylark, and little owl *Athene noctua*, were also present for the 10 km square.
- 5.4.11 Lapwing, skylark, curlew, dunlin, and twite are Birds of Conservation Concern red list species pied flycatcher, and redstart are an amber list species and little owl are not assessed (Stanbury *et. al.*, 2021).
- 5.4.12 The woodland adjacent to the western edge of the site would be broadly suitable for redstart. The grassland in the wider area was broadly suitable for the lapwing, curlew, and skylark² although the presence of numerous trees within the site and adjacent woodland negated the likelihood that these species would breed within the site or the surrounding area due to the presence of predators.
- 5.4.13 All of the buildings within the site had the potential to be used by nesting birds and old nests were recorded in Buildings 1 & 3 (Plate 24) as well as an active swallow nest cup (Plate 25).

² Twite are now extinct in the Southern Pennines

Plate 24. Old birds' nest in Building 1



Plate 25. Active swallow nest within Building 1



- 5.4.14 Due to reoccurring intermittent rain showers no birds were recorded during the initial inspection. The site was however expected to support a range of common garden species. During the nocturnal survey a barn owl *Tyto alba* was seen in flight within the northern and western parts of the site.
- 5.4.15 All of the buildings within the site were considered suitable for nesting by common species with Building 3 also considered suitable for use by nesting barn owl. More specialist species including ground nesting birds, were considered unlikely to nest so close to the buildings and field boundaries/woodland especially given the presence of grazing horses within the paddock to the east.
- 5.4.16 The habitats present on site were also considered to be suitable for foraging by common garden and farmland species as well as occasional and seasonal use by less common species. The relatively recent use of the western end of the site as a fairly well maintained garden, and the eastern field as a relatively intensively horse grazed paddock meant this was likely to be restricted to species such as starlings *Sturnus vulgaris* and winter thrushes.

Reptiles

- 5.4.17 One historic record of a common lizard *Zootoca vivipara* dating from 1972 was returned by the local biological records centre for the search area. The record was located c. 1.4 km to the south of the site on the other side of Langsett Reservoir.
- 5.4.18 The habitats present within the development site were considered broadly unsuitable for use by reptiles. Due to the lack of records it was considered very unlikely that they would be present within the site.

Amphibians

- 5.4.19 The local record centre returned seven amphibian records comprising three records of common frog *Rana temporaria* and four records of common toad *Bufo bufo*. The records were all located c. 1 km to the west of the site within plantation woodland between Langsett Reservoir and the A628.
- 5.4.20 The MAGIC Great Crested Newt Class Survey Licence Returns dataset identified no great crested newt records within the desk study area. In addition no European Protected Species Licence applications for great crested newts were identified within the 2 km search area. The lack of great crested newt records means this species was considered unlikely to be present within the site.
- 5.4.21 The lined garden pond that had been present within the garden was considered likely to have been suitable for breeding common amphibian species. Although the client reported that it had dried up at the time the site clearance occurred. The winter and spring of 2025 were exceptionally dry, alternatively if the liner had failed this would also account for the lack of water.

Invertebrates

- 5.4.22 The record search returned 2501 invertebrate records from the desk study area covering 753 species / groups. The closest records were located c. 60 m south of the site and comprised records of small tortoiseshell *Aglais urticae* and meadow brown *Maniola jurtina* butterflies. Both are widespread species utilising a wide range of habitats. The large number of invertebrate species present was considered in part due to the well visited footpaths around Langsett Reservoir as well as visits to the area by the British Myriapod and Isopod Group, and Sorby Invertebrate Group.
- 5.4.23 It is considered that the habitats present within the site were likely to support a slightly higher than average diversity of invertebrate species. However it was considered unlikely that a particularly rare or diverse assemblage was present, due to the absence of rare habitats on site or within the surrounding area.

Invasive species

- 5.4.24 A total of eight records of invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act were returned for the desk study area. The plant species comprised two Japanese knotweed *Fallopia japonica* records, four Himalayan balsam *Impatiens glandulifera* records, and two records of *Rhododendron ponticum*.
- 5.4.25 The closest record was a Himalayan balsam record located c. 550 m south of the development site.

5.4.26 Virginia creeper, a species listed on Schedule 9 of the Wildlife and Countryside Act (1981 as amended) was recorded growing on the northeast corner of Building 3. It is an offence to plant or allow this species to spread in the wild, or onto neighbouring properties (Appendix 2).

Value of habitats and species

5.4.27 No other protected or notable species / species groups were considered likely to use the site. The ecological value of the habitats and species present, or potentially present is given in geographic terms (from site to international value) in Table 3 below.

Table 3. Ecological importance of each habitat, species or species group using the site

Habitat, Species or Species Group	Ecological value
g3c – other neutral grassland	Site
h2a5 – species rich native hedgerow	Local
u1b5 - buildings	Negligible
u1b6 – other developed land	Negligible
u1c – artificial unvegetated, unsealed surface	Negligible
u1f – sparsely vegetated urban land	Negligible
33 – line of trees	Site
Badger	Site (if present)
Hedgehog	Site
Bats	Up to local
Birds	Local
Reptiles	Unlikely to be present
Amphibians (including great crested newts)	Up to site
Invertebrates	Up to local
Invasive species	N/A

6. Assessment

6.1 Proposals

- 6.1.1 The assessment of impacts is based upon a consideration of the proposed demolition of the existing buildings, the removal of part of the on site hedgerow and the construction of two new dwellings and associated gardens. The proposed plan for the development is shown in Appendix 1.
- 6.1.2 The presence of the following protected and notable species was identified or has been assumed: badger, hedgehog, bats, birds (including barn owl) common amphibian species (but not great crested newt), and an above average density of invertebrate species (although unlikely to include particularly rare species).

6.2 Assessment of Impacts

- 6.2.1 The likely unmitigated impacts of the development were considered to comprise:
- The net loss of approximately 0.2 ha of other neutral grassland.
 - The net increase of 0.2 ha of vegetated garden.
 - The net increase of c. 26 m of species rich native hedgerow.
 - Damage of retained trees and hedgerows.
 - The loss of bird nesting habitat and the potential removal of active birds' nests.
 - The loss of potential bat roost features and the use of unsafe roofing membranes in areas which could be used by roosting bats.
 - The loss of a small amount of amphibian terrestrial habitat, and the potential disturbance, killing or injury of common amphibian species.
 - The potential loss of foraging habitat for badger and hedgehogs.
 - Increased lighting affecting nocturnal species such as hedgehogs, bats, and barn owl.
 - Biosecurity risks as a result of bringing in plants, seeds and soil for landscaping.
 - Without mitigation the proposed development is likely to result in a net loss of 0.98 Biodiversity Net Gain Habitat Units³, and a gain of 0.14 Hedgerow Units.
- 6.2.2 Mitigation and enhancement measures have been proposed for the site.

6.3 Biodiversity Calculations

- 6.3.1 The Headline Results output of The Statutory Biodiversity Metric is presented in Appendix 7, based on the proposed site habitats shown in the proposed UK Habitats Map included as Appendix 8. Due to the site clearance that had taken place prior to the survey the u1f habitat and the pile of earth was considered to be vegetated garden as indicated by previous applications. The garden was considered to include three medium sized trees in good condition prior to the site clearance (located in Group 5, Figure 3) and these have therefore also been included within the on-site habitat baseline assessment.
- 6.3.2 The development is projected to result in a net loss of 0.98 Habitat Units (a 56.20 %

³ This includes the loss of three medium sized trees (identified within the 2024 arboricultural assessment)

loss) and 0.14 Hedgerow Units (a 16.39 % gain).

- 6.3.3 It is not possible to mitigate for the loss of habitat units onsite without making the proposed development unviable. Therefore it is proposed to purchase habitat units from a third party provider to provide the required net gain.

6.4 Mitigation and Enhancement Measures

Further survey

- 6.4.1 No further survey is required to identify the likely impacts and required mitigation for this project.

Tree protection

- 6.4.2 In order to protect the retained vegetation within and around the site British Standard 5837 (2012): Trees in relation to design, demolition and construction, should be followed (BSI, 2012). Root Protection Zones (RPZs) should be calculated and implemented to prevent harm to retained trees on-site or near the construction area. This should also apply to any trees out-with the site, up to 5 m from the boundary.

Biosecurity

- 6.4.3 During the landscaping, where additional subsoil or topsoil is required, it should be free of non-native invasive species. All bulk imported soils should be peat free. Seeds and plants should be sourced from a reputable UK supplier such as Mires Beck Nursery, and if possible should be of UK province.

Protecting bats

- 6.4.4 The bat survey undertaken did not record the presence of roosting bats within the onsite buildings. However, at least four species of bats were recorded in flight within the area, and an individual bat can occasionally roost almost anywhere. Demolition should be undertaken with care. If a bat or signs of bats are recorded the work should cease and an experienced bat ecologist contacted for further advice.
- 6.4.5 Most modern roofing and cladding membranes are unsafe for use in areas which may be used by bats. As standard we recommend that a membrane that is safer for bats is used in areas where bats are present. Further information on this issue is included in Appendix 6.

Protecting nesting birds

- 6.4.6 Evidence of nesting birds was present within B1 & 3. During demolition, the presence of nesting birds within the buildings is considered a possibility. Barn owls can nest all year round although they are most likely to nest during the standard bird breeding season (March to September inclusive). It is recommended that a check for active nests is undertaken prior to the start of demolition. If an active nest is present, it must be retained in-situ until the young have fledged. As stated in Appendix 2 active bird's nests are legally protected.

Protecting amphibian species

- 6.4.7 Although a great crested newt mitigation licence is not required, mitigation measures

should be put in place to ensure other amphibian species are protected during the proposed site clearance and construction work. These precautionary working practices are detailed below:

- To avoid creating a habitat that might be used by hibernating amphibians during the works, any materials resulting from site clearance/demolition should be removed from site immediately or placed into a skip or otherwise secure container with no piles of material allowed to accumulate during works. Existing piles should be pulled apart with care and any amphibians present moved, or allowed to move out of the working area before recommencing clearance or construction.
- During construction, building materials should be stored on pallets or otherwise kept off the ground. They should be kept in an unvegetated area. This will prevent them attracting amphibians seeking shelter.
- Any excavations (e.g. foundation) should be checked for amphibians in the morning prior to recommencing work.

Habitat creation

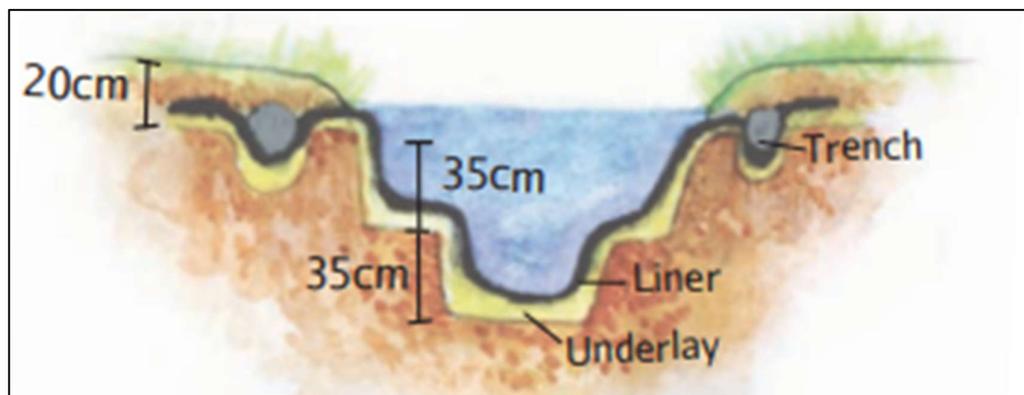
- 6.4.8 Within the development, any new areas of lawn to be created will be sown with a grass mix that includes fine grasses and wildflowers that will thrive in short grass⁴. Advice on how to take care of a flower rich lawn is given on the Plant Life website⁵. This will benefit the invertebrates in the local area and the other wildlife such as hedgehogs, amphibians, birds and bats, that feed on them.
- 6.4.9 The species rich native hedgerow will be extended along the northern site boundary. The new length of hedge will comprise a minimum of at least five native woody species and will include berry-rich species such as hawthorn and elder. Where possible the hedgerows should be cut every other year to allow the plants to flower and produce berries (many woody species don't produce fruit on stems that are less than a year old).
- 6.4.10 The hedgerows would need to be retained in good condition and managed to maintain a height and width of at least 1.5 m, without significant gaps at the base or within the canopy. A strip of longer sward vegetation at least 1 m wide should be allowed to develop at the hedgerow base and sown with a suitable hedgerow base seed mix, such as Emorsgate EH1.
- 6.4.11 To replace the pond lost during site clearance, a medium sized pond (> 20 m²) should be created with a relatively deep centre of at least 1 m and stepped shallower margins with undulations and irregular edges (Figure 4). Stone edging should be included to prevent too much encroachment by adjacent plants. The pond will provide important habitat for a range of mammals, birds, amphibians, and invertebrates.

⁴ An example of a flower rich short sward seed mix is available from:

<https://www.wildflowerlawnsandmeadows.com/product/wild-flower-lawn-seed-mix/>

⁵ Information on how to mow a lawn to maximise the presence of wildflowers can be found at <https://nomowmay.plantlife.org.uk/what-is-no-mow-may/wild-flower-lawn/>

Figure 4. Indicative pond depth cross section showing undulating base on a small pond⁶

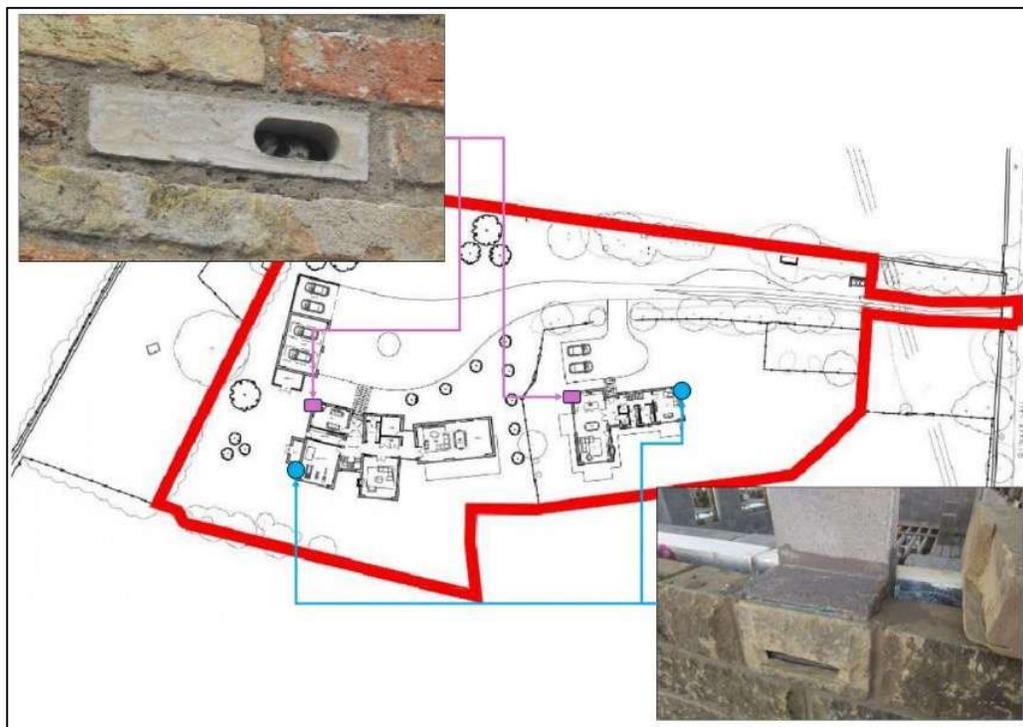


Provision of bat and bird boxes

- 6.4.12 It is recommended that the new bird nesting and bat roost provision is incorporated in to each of the two new dwellings. Barnsley Council's Biodiversity and Geodiversity Supplementary Planning Document (BC, 2024) which stipulates that 100% of all new dwellings should include integrated bat and bird boxes.
- 6.4.13 This provision should comprise one integrated bat box, and one integrated bird box in each dwelling. Swift *Apus apus* bricks are the most appropriate integrated bird box option. Boxes should be located as high as possible and ideally not directly over doors or windows. Suitable locations are shown on Figure 5.

⁶ Diagram from the Froglife Publication: Just Add Water available from: <https://www.froglife.org/info-advice/just-add-water/> which includes advice on creating small wildlife ponds.

Figure 5. Suitable locations for bat boxes (indicated by the blue dots) and swift boxes indicated by the purple rectangles)



6.4.14 In addition, it is recommended that a barn owl box is installed on the edge of the woodland to the west of the site (the woodland is also within the clients ownership although not within the planning application boundary)⁷. An additional six durable bird boxes such as the Vivara Pro Seville 32 mm Woodstone Nest Box⁸ suitable for smaller bird species should also be installed on trees within the site or adjacent woodland.

Lighting

6.4.15 The design of new outside lighting should be carefully considered in line with guidance from the Institute of Lighting Professionals and the Bat Conservation Trust Guidance (IILP, 2023). Where external lighting is required, it must be downwards facing and have a horizontal cut off, i.e. with no upwards component. Care should be taken to ensure there is no light spill onto off site areas such as the adjacent woodland. The lighting should be relatively low level and have a warm colour tone (i.e. not cold white or blue) (Plate 26). Lighting on the rear of the properties should be activated only by PIR sensors. No lighting should illuminate the integrated bat or bird boxes.

⁷ Suitable designs for barn owl tree nestboxes are available from The Barn Owl Trust website: <https://www.barnowltrust.org.uk/barn-owl-nestbox/owl-boxes-for-trees/>

⁸ This next box is available from: <https://www.nhbs.com/vivara-pro-seville-32mm-woodstone-nest-box?bkfno=234958>

Plate 26. Example of low-height lighting used to illuminate a path



6.5 Conclusion

- 6.5.1 The inclusion of a new pond, bat and bird boxes, additional hedgerow planting along the northern site boundary, and low-flowering herbs within the lawn seed mix maximises habitat opportunities within the constraints of the proposed development. Measures to protect nesting birds and common amphibians during construction will ensure these groups are not harmed if present. In addition, the use of a bat-safe roofing membrane and sensitive lighting design will prevent significant long-term impacts on bats and other nocturnal species.
- 6.5.2 With the mitigation proposed, the scheme is not considered to cause a significant negative effect on any species or species group at more than a site level.
- 6.5.3 Although it is not possible to provide a 10 % net gain in biodiversity net gain habitat units, these will be purchased from a third party provider to ensure a suitable uplift over the 30 year management and monitoring period.
- 6.5.4 The results of this survey and report are considered to be valid for a period of 24 months. After this time Middleton Bell Ecology should be contacted to determine the need for update survey.

7. References

BC (2024) Barnsley Local Plan Supplementary Planning Document Biodiversity and Geodiversity. Barnsley Metropolitan Borough Council

Biggs, J *et al.* (2015) Using eDNA to develop a national citizen science-based monitoring programme for the great crested newt *Triturus cristatus*. *Biological Conservation*. 183. 19-28.

CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

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DEFRA (2023) The Statutory Biodiversity Metric User Guide (draft). DEFRA.

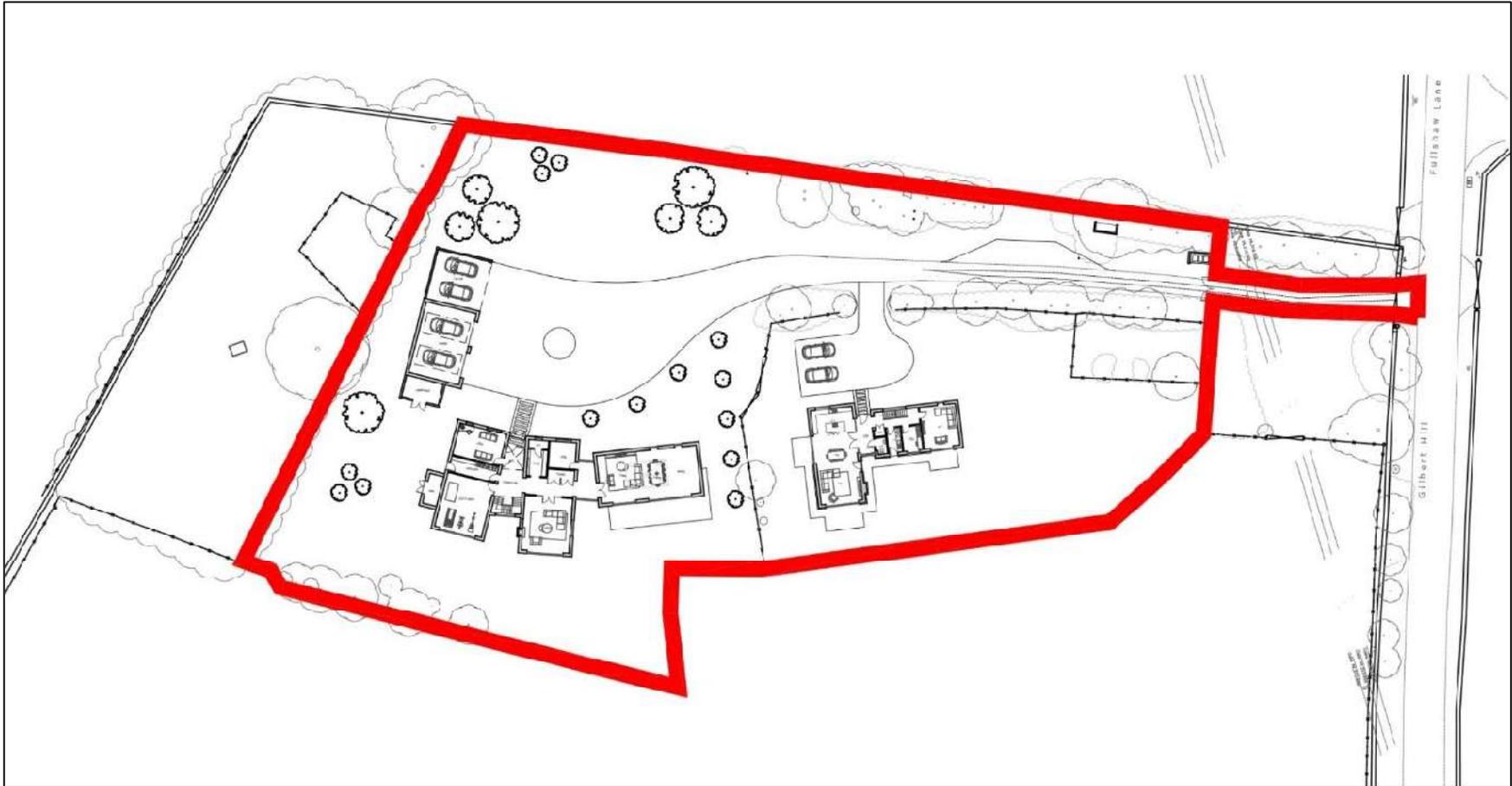
ILP (2023) Guidance Note 08/23 Bats and Artificial Lighting At Night. Bat Conservation Trust and Institute of Lighting Professionals.

Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., & I Win (2021) *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. *British Birds* 114: 723-747. Available online at: www.britishbirds.co.uk/content/status-our-bird-populations

UKHab Ltd (2023) UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>)

Appendix 1. Proposed Plan

The proposed development site plan is shown below.



Appendix 2. Relevant Legislation and Planning Policy

Wildlife legislation relating to statutory designated sites and species is summarised in Table A2.1 and A2.2 below. This legal information is intended for summary only, and the original legal documents should be consulted if a detailed understanding is required.

Table A2.1. Legislation relating to designated sites and habitats

Designated Site	Legal Status
Special Area of Conservation (SAC)	SACs are strictly protected areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed in Annexes I and II of the EC Habitats Directive. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 are the legal instrument for implementing the Habitats Directive in the UK. SACs are of at least European importance to nature conservation.
Special Protection Area (SPA)	SPAs are strictly protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC), also known as the Birds Directive. They are classified for rare and vulnerable birds, listed in Annex I of the Birds Directive, and for regularly occurring migratory species. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 are the legal instrument for implementing the Birds Directive in the UK. SPAs are of at least European importance to nature conservation.
Site of Special Scientific Interest (SSSI)	SSSIs are the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been re-notified under the Wildlife and Countryside Act 1981 (as amended). Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000. SSSIs are of at least national importance to nature conservation
Local Wildlife Site (LWS)	While they have no direct legal status, Local Wildlife Sites are considered important enough to receive recognition within the planning system. National planning policy requires local authorities to identify Local Wildlife Sites and provide for their protection through local policy.
Hedgerows	Hedgerows that meet certain criteria are protected by The Hedgerows Regulations 1997, under which it is an offence to remove or destroy such hedgerows without permission from the Local Planning Authority.

Table A2.2. Legislation relating to species

Species	Legal Status
European protection	
European Protected Species (EPS) (including bats)	<p>These animal species and their breeding sites or resting places are protected under Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which makes it illegal to:</p> <ul style="list-style-type: none"> • Intentionally or deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. • Deliberately disturb such an animal. • Damage or destroy a breeding site or resting place of such an animal. <p>European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed:</p> <ul style="list-style-type: none"> • The development is for reasons of overriding public interest. • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. <p>Under Regulation 9(5) of The Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.</p>
National protection	
European Protected Species and other species including adder, grass snake, common lizard, and water vole	<p>These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:</p> <ul style="list-style-type: none"> • Intentionally kill, injure or take any such animal. • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and • Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Schedule 1 birds (including barn owl)	<p>Special penalties relate to offences concerning birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any Schedule 1 bird or their dependent young while nesting.</p>
All bird species	<p>All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:</p> <ul style="list-style-type: none"> • Intentionally kill, injure or take any wild bird. • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

Species	Legal Status
Invasive species	The Wildlife and Countryside Act 1981 (as amended) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act. In relation to Schedule 9 plants, it is an offence to plant or otherwise cause these plant species to grow in the wild.

Species and Habitats of Principal Importance

Planning authorities have a duty under Section 40 of the NERC Act 2006 to have regard to priority species and habitats in exercising their functions including development control and planning. In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI). The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

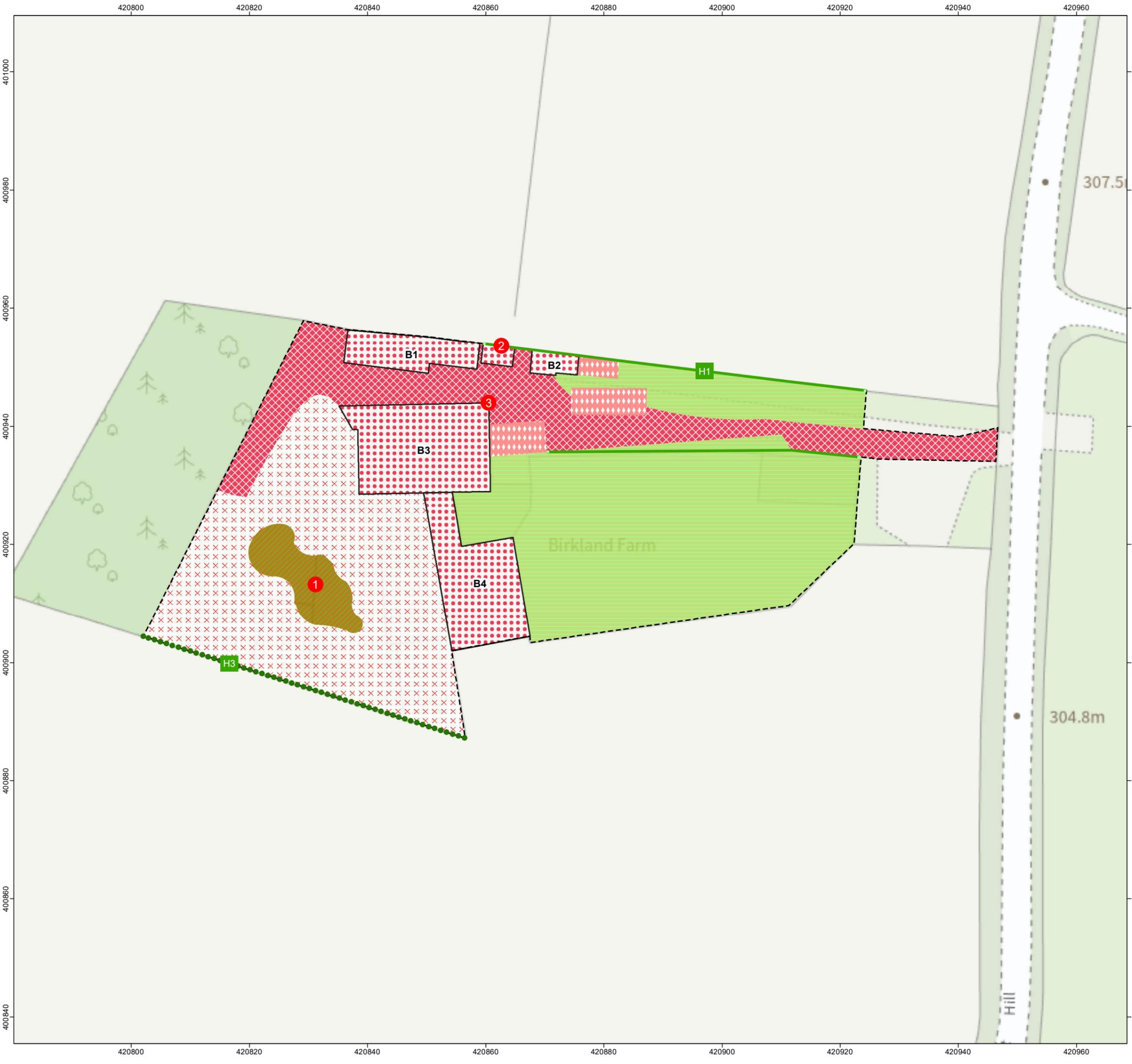
National Planning Policy Framework

The National Planning Policy Framework for England was revised in 2025. This document states that plans should ‘promote the conservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity’. It also puts an emphasis on refusing development which would result in the ‘loss or deterioration of irreplaceable habitats (such as ancient woodland)’ unless there are ‘wholly exceptional reasons and a suitable mitigation strategy exists’.

Local Biodiversity Action Plans

The HPI/SPI list included on Section 41 of the NERC Act 2006 is supported by a series of Local Biodiversity Action Plans (LBAPs), usually set up on a local authority local authority administrative boundary basis. Each LBAP identifies those habitats and species considered to be most important in that area (usually referred to as priority habitats and species). Commonly, an LBAP will identify a number of habitats and species for which “action plans” have been prepared.

Appendix 3. UK Habitat Classification Plan



Survey Information	
	Site boundary (5,539.1m ²)
UK Habitat Survey (Primary Habitats)	
	g3c - Other neutral grassland (2,052.3m ²)
	u1b5 - Building (784.2m ²)
	u1b6 - Other developed land (132.3m ²)
	u1c - Artificial unvegetated, unsealed surface (858.6m ²)
	u1f - Sparsely vegetated urban land (1,544.0m ²)
	112 - Earthbank (167.7m ²)
	h2a5 - Species-rich native hedgerow (H1=65.4m, H2=53.0m)
	33 - Line of trees (57.2m)

	Target note
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Target notes:

- 1 – Mound of earth
- 2 – Portacabin
- 3 – Virginia creeper

Source: Ordnance Survey © Crown copyright 2025. All rights reserved. License Number 100049837.

PROJECT TITLE
BIRKLAND FARM

DRAWING TITLE
Figure 1. UK Habitat Survey Plan

VER	DATE	REMARKS	Drawn	Checked
2.2	24/09/25	UKHab	MP	GS

DRAWING NUMBER:
MIDDLETONBELLECOLOGY/BirklandFarm/UKHab

SCALE	1:625	PLOT SIZE	A3	DATUM	OSGB	PROJECTION	BNG
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Appendix 4. Plant Species Recorded on Site

The plant species and their relative abundance within the habitats present on site are shown in Table A5.1 below.

D = Dominant, **A** = Abundant, **F** = Frequent, **O** = Occasional, **R** = Rare, **L** = Locally

Table A4.1. Plant species recorded and their relative abundance

common name	Latin name	g3c	u1f	w1g	H1	H2	H3
common bent	<i>Agrostis capillaris</i>	O					
perennial rye grass	<i>Lolium perenne</i>	O /LA					
red fescue	<i>Festuca rubra</i>	A		O			
Yorkshire fog	<i>Holcus lanatus</i>	R /LA					
cocksfoot	<i>Dactylis glomerata</i>			O			
greater willowherb	<i>Epilobium hirsutum</i>				LA		
rosebay willowherb	<i>Chamerion angustifolium</i>		LA				
creeping thistle	<i>Cirsium arvense</i>		LA				
great willowherb	<i>Epilobium hirsutum</i>		R				
creeping buttercup	<i>Ranunculus repens</i>	LA		O			
bramble	<i>Rubus fruticosus</i>	R		O			
curled dock	<i>Rumex crispus</i>	O					
broad leaved dock	<i>Rumex obtusifolius</i>	R	O				
dandelion	<i>Taraxacum officinale</i>	O	O				
broad leaved plantain	<i>Plantago major</i>		O				
dock sp.	<i>Rumex sp.</i>		LA				
spear thistle	<i>Cirsium vulgare</i>	R					
pineapple weed	<i>Matricaria discoidea</i>		F				
ribwort plantain	<i>Plantago lanceolata</i>	R					
autumn hawkbit	<i>Scorzoneroides autumnalis</i>	R					
common nettle	<i>Urtica dioica</i>	R /LA	O				
ivy	<i>Hedera helix</i>					R	
male fern	<i>Dryopteris filix-mas</i>			O			
bulrush	<i>Typha latifolia</i>		R				
springy turf moss	<i>Rhytidiadelphus squarrosus</i>	R					
hazel	<i>Corylus avellana</i>				O	R	
goat willow	<i>Salix caprea</i>			O	O	O	
hawthorn	<i>Crataegus monogyna</i>			F	O	R	
ash	<i>Fraxinus excelsior</i>			F	O	O	R
crack willow	<i>Salix fragilis</i>			R	R		
elder	<i>Sambucus nigra</i>				R	R	
horse chestnut	<i>Aesculus hippocastanum</i>			R			

common name	Latin name	g3c	u1f	w1g	H1	H2	H3
sycamore	<i>Acer pseudoplatanus</i>			R			R
domestic apple	<i>Malus domestica</i>						R
crab apple	<i>Malus sylvestris</i>					R	
wild cherry	<i>Prunus avium</i>			R			
Cherry laurel	<i>Prunus laurocerasus</i>					R	
cherry sp.	<i>Prunus spp.</i>					R	
sessile oak	<i>Quercus petraea</i>					R	
silver birch	<i>Betula pendula</i>			R	O		A
field maple	<i>Acer campestre</i>			R	R	O	
Leyland cypress	<i>Cupressus × leylandii</i>			R			
larch	<i>Larix decidua</i>			F			
Scots pine	<i>Pinus sylvestris</i>			O			
dog rose	<i>Rosa canina</i>					R	
rowan	<i>Sorbus aucuparia</i>			O			
small leaved lime	<i>Tilia cordata</i>			R			
<i>Viburnum tinus</i>	<i>Viburnum tinus</i>					R	

Appendix 5. Bat Survey Results

7.1.1 Building descriptions, and the features suitable for use by roosting bats are shown in the table below.

<p>Building 1 - Outbuildings</p> <p>Low Bat Roost Suitability</p>		
	Description	Terrace of five single storey outbuildings constructed from a variety of materials – all with single-pitch roofs.
	Features of bat potential	Barge boards (a), and gaps between overlapped fibre cement boards (b).
	Bat evidence	None recorded.
<p>Building 2</p> <p>Negligible Bat Roost Suitability</p>		
	Description	Kennels and wood store. Both wooden-framed open fronted buildings with single pitch roofs.
	Features of bat potential	None – the open buildings had high internal light levels and were constructed with a wooden frame and single skin of wooden cladding.
	Bat evidence	None recorded.
<p>Building 3</p> <p>Low Bat Roost Suitability</p>		

	Description	Large steel framed barn with brick and concrete block sections and a multi-pitched roof covered with fibre-cement boards and a fake pan tile style sheet.
	Features of bat potential	Verge capping (c), and overlapping fibre-cement boards (b).
	Bat evidence	None recorded.
Building 4 Negligible Bat Roost Suitability		
	Description	Wooden framed barn clad with corrugated metal sheets.
	Features of bat potential	None – the single skin construction offered no obvious potential roost features.
	Bat evidence	None recorded.

Figure A5.1. Potential bat roost features identified during the inspection



23rd July 2025 – dusk emergence survey

7.1.2 The temperature at the beginning of monitoring was 16°C, with eight oktas of cloud cover and a light air (Beaufort Scale 1). The temperature remained the same

throughout the survey and no rain was recorded. Sunset was at 21:17.

- 7.1.3 The first bat activity recorded was a common pipistrelle pass at 21:57 (40 minutes after sunset). Bat activity during the survey was moderate. Bat activity was recorded in the area around the buildings but the presence of roosting bats was ruled out following detailed review of the video footage <https://youtu.be/dhH261pLNJQ>.
- 7.1.4 The other species recorded comprised soprano pipistrelle, brown long-eared bat, and at least one *Myotis* bat species.

Appendix 6. Roofing and Cladding Membranes

Standard roof membranes can cause the death of significant numbers of bats. Traditional bitumen coated roofing felt is recommended where roosting bats are expected to be present.

The problem

Standard non-bitumen coated membranes (including almost all breathable membranes) used below roof slates and tiles present a significant problem for bats. Over time, strands are pulled away from the surface of these materials as bats crawl over them. These fuzzy strands are very strong and can tangle and trap bats, sometimes causing the death of bats over multiple years⁹.

One example we have encountered comprised a pipistrelle roost which formed in a building extension constructed in 2009. Over the course of just 13 years the roofing felt degraded to the extent that it trapped and killed more than 10 bats. Fortunately, the problem in this roost was identified and remedial work was undertaken to replace the roofing membrane in 2022.

Plate A6.1. Four dead pipistrelles tangled in breathable roofing membrane



Although a new roof might be considered to lack potential bat access points, that is often not the case. Roofs covered with stone slates almost always have gaps large enough to be accessed by bats, this is often also the case where imitation stone slates are used. On older buildings the uneven roof timbers and/or building design also often results in gaps on wall tops and between slates. Even on new builds it is often possible for bats to access potential roosts via features such as dry verge capping. Some bats can access a space no wider than a biro pen, therefore it is not surprising that they can find their way into most buildings.

Safe roofing membranes (and membranes behind cladding)

From a bat perspective, the best membrane option for areas where roosts are expected comprises traditional hessian-backed Type 1F bituminous felt. This product has been widely and safely used as a secondary weather barrier since approximately the 1950s/1960s. Wooden sarking has also been used for many decades and if appropriately treated, is safe for use in bat roosts. Wooden sarking also has the benefit of providing additional insulation and is usually breathable.

⁹ Wearing S, Essah E., Gunnell K. & Bonser R. (2013) Double jeopardy: the potential for problems when bats interact with breathable roofing membranes in the United Kingdom. *Architecture and Environment*

At the time of writing (and to our knowledge) two products have passed the 'snagging propensity' test; consequently these products are approved by Natural England for use in bat roosts. This test attempts to replicate the wear and tear which results from bats crawling over the membrane. The approved products are: TLX BatSafe^{10,11} and SIGA Majcoat 350. Although they have passed this test, it is unclear how these membranes will degrade in the medium and long term, particularly in larger bat roosts. Therefore we do not recommend that they are used for roosts with multiple bats, and particularly for large (maternity roosts). A third product, SIGA Majcoat 200 SOB Diffusion, passed the test for its upper surface only. This product should not be used in known bat roosts or locations where bat mitigation is to be installed. Although none of these products are considered to be as safe as traditional Type 1F bituminous felt, they may provide an option for roofs where future bat use cannot be ruled out, and a breathable solution is required.

Additional considerations

In recent years a fairly substantial proportion of the lofts we have surveyed which had existing breathable felt, were found to have been damaged by wasps (Plate A6.2). The wasps appear to have chewed holes in the felt and formed nests. This doesn't appear to be a problem associated with traditional bitumen coated roofing felt. Any holes within roofing felt are likely to significantly reduce its functionality as a secondary weather barrier. Where bats or birds come into contact with breathable roofing membranes, they can also damage it causing it to leak, they can also significantly reduce the breathability of the felt in that location.

Plate A6.2. Damage to a breathable roofing membrane adjacent to a wasp nest



Traditional bituminous Type 1F roofing felt is a non-breathable product and therefore ventilation is required. Sufficient ventilation can usually be achieved, even in buildings with vaulted ceilings, however, some consideration during the design stage is required. Products to increase the ventilation within roofs where bituminous Type 1F felt has already been installed are also available.

¹⁰ <https://www.gov.uk/government/publications/bats-apply-for-a-mitigation-licence#full-publication-update-history::~:~:text=Use%20of%20safe%20roofing%20membranes>

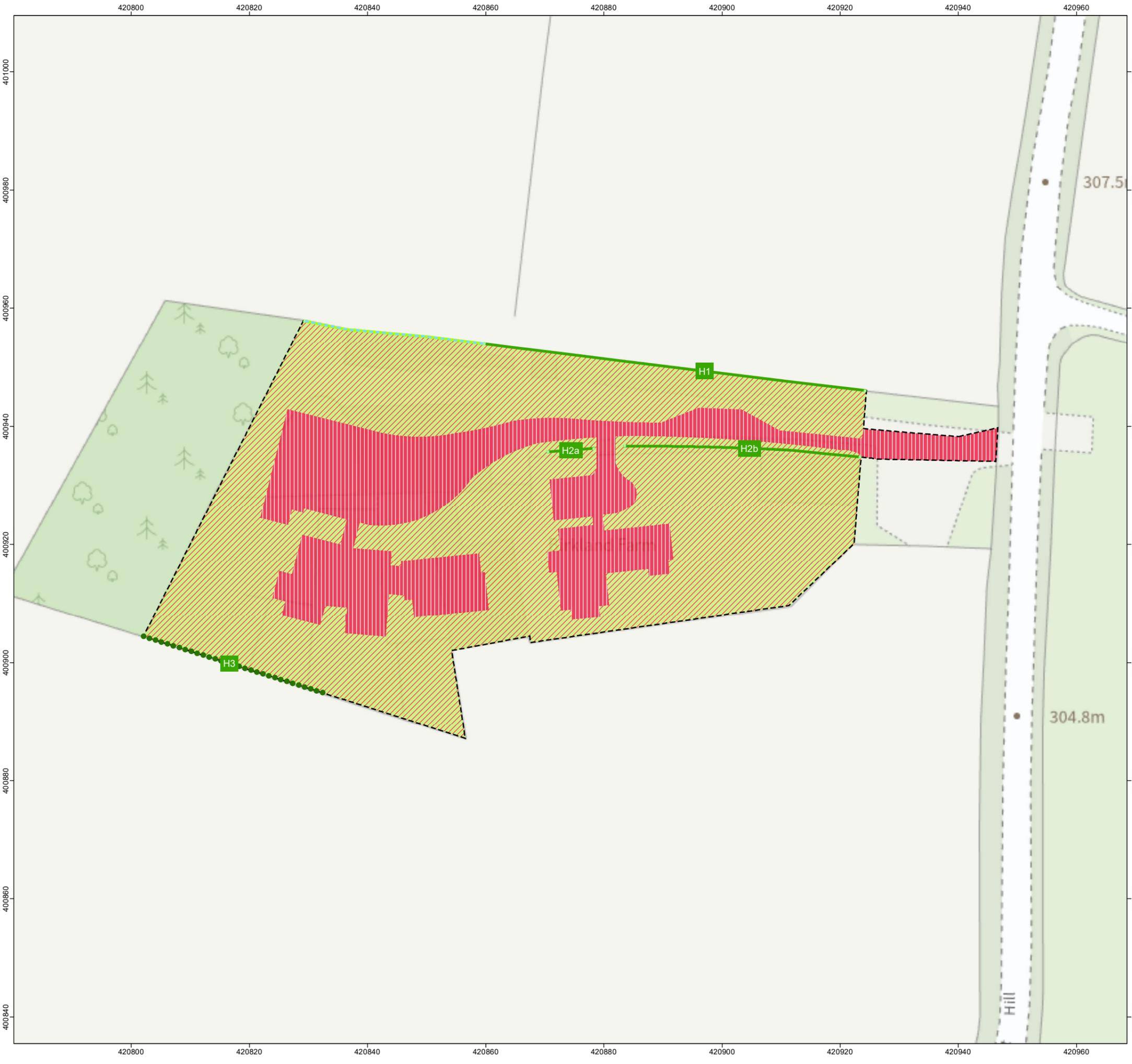
¹¹ TLX BatSafe requires all joints and cut edges to be taped in order to prevent the fraying of bare edges.

Appendix 7. Biodiversity Net Gain Headline Results

The Biodiversity Net Gain Final Results show a net loss of 0.98 Habitat Units (a 56.20 % loss), and a gain of 0.14 Hedgerow Units (a 16.39 % gain).

Birkland Farm		Return to results menu		
Headline Results				
Scroll down for final results ▲				
On-site baseline		<i>Habitat units</i>	1.75	
		<i>Hedgerow units</i>	0.83	
		<i>Watercourse units</i>	0.00	
On-site post-intervention <small>(Including habitat retention, creation & enhancement)</small>		<i>Habitat units</i>	0.77	
		<i>Hedgerow units</i>	0.96	
		<i>Watercourse units</i>	0.00	
On-site net change <small>(units & percentage)</small>		<i>Habitat units</i>	-0.98	
		<i>Hedgerow units</i>	0.14	
		<i>Watercourse units</i>	0.00	
Off-site baseline		<i>Habitat units</i>	0.00	
		<i>Hedgerow units</i>	0.00	
		<i>Watercourse units</i>	0.00	
Off-site post-intervention <small>(Including habitat retention, creation & enhancement)</small>		<i>Habitat units</i>	0.00	
		<i>Hedgerow units</i>	0.00	
		<i>Watercourse units</i>	0.00	
Off-site net change <small>(units & percentage)</small>		<i>Habitat units</i>	0.00	
		<i>Hedgerow units</i>	0.00	
		<i>Watercourse units</i>	0.00	
Combined net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>		<i>Habitat units</i>	-0.98	
		<i>Hedgerow units</i>	0.14	
		<i>Watercourse units</i>	0.00	
Spatial risk multiplier (SRM) deductions		<i>Habitat units</i>	0.00	
		<i>Hedgerow units</i>	0.00	
		<i>Watercourse units</i>	0.00	
FINAL RESULTS				
Total net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>		<i>Habitat units</i>	-0.98	
		<i>Hedgerow units</i>	0.14	
		<i>Watercourse units</i>	0.00	
Total net % change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>		<i>Habitat units</i>	-56.20%	
		<i>Hedgerow units</i>	16.39%	
		<i>Watercourse units</i>	0.00%	
Trading rules satisfied?		No - Check Trading Summaries ▲		
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
<i>Habitat units</i>	10.00%	1.75	1.93	1.16
<i>Hedgerow units</i>	10.00%	0.83	0.91	0.00
<i>Watercourse units</i>	10.00%	0.00	0.00	0.00

Appendix 8. UK Habitats Plan Showing The Proposed Site



Survey Information	
	Site boundary (5,539.1m ²)
UK Habitat Survey (Primary Habitats)	
	u1b - Developed land; sealed surface (1,566.6m ²)
	828 - Vegetated garden (3,972.5m ²)
	h2a5 - Species-rich native hedgerow (H1=65.4m, H2a=8.2m, H2b=40.3m)
	33 - Line of trees (32.0m)
	h2a5 - Species-rich native hedgerow, newly planted (30.7m)

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PROJECT TITLE
BIRKLAND FARM

DRAWING TITLE
Figure 2. Proposed Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1.2	24/09/25	Proposed	MP	GS

DRAWING NUMBER:
MIDDLETONBELLECOLOGY/BirklandFarm/Proposed

SCALE	1:625	PLOT SIZE	A3	DATUM	OSGB	PROJECTION	BNG
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