

Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Land at Pound Farm, Bedford Road, Ickleford, Hitchin, North Hertfordshire, SG5 3RS

Client:

Bugler Homes Ltd.

Survey date:

3rd November 2025

Project:

This report is prepared to inform a planning application with the North Hertfordshire District Council. The proposal is described as: Hybrid application for a mixed-use development to provide a total of up to 230 dwellings, a residential care home (Use Class C2), an Independent Special School (ISS) and new sports pitch, with access from Bedford Road, landscaping, parking and SuDS comprising: Phase 1 – Application for full planning permission for the erection of 100 dwellings, an ISS, new sports pitch and associated parking, landscaping, open space and SuDS; Phase 2 – An outline application on the remaining part of the site for the erection of up to 130 dwellings, a residential care home (Use Class C2) and associated works with access from Bedford Road (all matters reserved apart from access).

PEA survey methodology and legislation can be found in the Arbtech Supplement: [PEA Methodology and Legislation - 2025.](#)

PRA survey methodology and legislation can be found in the Arbtech Supplement: [PRA Methodology and Legislation - 2025.](#)

Site Location and Context

The survey site is centred on National Grid Reference TL 17506 31634 and has an area of approximately 20 ha.

The site is a large agricultural field south of Pound Farm, with the eastern boundary following the Beford Road. It is situated on the outskirts of Ickleford, north of Hitchin. There are scattered trees within the site as well as native hedgerow extending into the local garden landscape. Aerial imagery shows the local landscape to have an agricultural landscape, with several very small woodland swathes in close proximity to the site. Many minor watercourses can be seen within close proximity to site as well as the River Oughton ~0.5km to the south. Such features likely enhance the area for a variety of species, including bats, amphibians and reptiles. The site is situated upon slightly acid loamy and clayey soils with impeded drainage upon the Gault Formation – mudstone.

This report is based upon the current proposed plans given at the time of writing. If there proposed plans change this report will need to be updated accordingly.

Survey Details

The site survey was undertaken by Rory Sear BSc (Hons) Graduate Ecologist and Accredited Agent on Natural England Bat Licence – 2018 -33540-CLS-CLS.

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (mph)	Rain
03/11/2025	14.2	77	100	15	None

Executive Summary

Main observations:

- Habitats observed:
Cereal crop land, modified grassland, modified grassland with ruderal or ephemeral, bramble scrub, native hedgerow, ornamental hedgerow, scattered trees, line of trees and ditch.
- Evidence of badger activity – three latrines and a deceased badger.
- Evidence of bird nesting.
- Important hedgerow observed.
- Overwintering birds: 6 golden plover.

Recommendations:

- Precautionary working methods for badgers.
- Precautionary working methods for amphibians.
- Precautionary working methods for small mammals (i.e. hedgehogs).
- Precautionary working methods for reptiles.
- Breeding bird surveys.

- Bat activity surveys.
- Removal of vegetation to avoid the months March-August to avoid disturbance of nesting birds.

Survey limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

The survey was completed outside of the optimal survey period (April to October) for ground flora, and as such the accuracy of botanical assessment and condition assessment data may be limited in terms of species visible and ground conditions at the time of survey.

Ecological Survey Factor Conclusion, Impact or Recommendations	Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.
	Habitats and plants (see habitat map in appendix 1, location plan in appendix 2, proposal plan in appendix 3 and photos in appendix 4, pond map in appendix 5, tree condition assessment in appendix 6, modified grassland condition assessment in appendix 7 and hedgerow regulations assessment in appendix 8, hedgerows condition assessment in appendix 9 and 10 and ditch condition assessment in appendix 11. Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).
<i>Summary of Survey Findings</i>	The site contains native hedgerow which is listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Other habitats within the site are common and widespread and have low ecological value. Further notable habitats are present within 2km. On-site habitat descriptions u1c - Artificial unvegetated, unsealed surface A one-metre-wide path that passes through the site from west to east – occasional use by pedestrians and dog walkers. h2a – Native Hedgerow

Hedgerow 1

Native species dominated hedgerow along the southern boundary of the site and backing onto private garden. Four species were observed in the hedgerow including blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), snowberry (*Symphoricarpos albus*), apricot (*Prunus armeniaca*). The hedgerow was approximately 4m tall and 3m deep. This hedgerow was found to be an **important hedgerow** under the Hedgerow Regulations 1997 meaning local planning authorities are able to prevent its removal. An assessment of H1 is available in Appendix 8.

Hedgerow 2

Native species dominated hedgerow along the eastern boundary of the site and backing onto Bedford Road. It was dominated by blackthorn (*Prunus spinosa*), also with hawthorn (*Crataegus monogyna*), elm (*Ulmus procera*) elder (*Sambucus nigra*), dogwood (*Cornus sanguinea*) and beech (*Fagus sylvatica*). The hedgerow was approximately 4-5m tall and 2-3m deep. Mature trees were also observed in the hedgerow. This hedge was found to not be an important hedgerow.

Hedgerow 3

A hornbeam (*Carpinus betulus*) hedgerow along a ditch on the northern boundary of the site. Only one species was present, and it was about 2.5m tall and 1 metre wide. The hedgerow was also not very dense. This hedge was found to not be an important hedgerow.

Hedgerow 4

A small section of native hedgerow was observed at the southwestern-most point, bordering the western boundary. This hedgerow featured blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*) and English oak (*Quercus robur*). The hedgerow was approximately 3m tall and 2-3m deep. This hedge was found to not be an important hedgerow.

Table 1. Native hedgerow condition assessment for hedgerows 1, 2 and 4. A full condition assessment is available in appendix 9.

Category	Pass/fail criteria	Description
Height	Pass	Hedge is taller than 1.5m
Width	Pass	Hedge is wider than 1.5m
Gap – hedge base	Pass	Gap between base and canopy is less than 0.5m for at least 90% of length
Gap - hedge canopy	Pass	Gaps make up less than 10% of total length and no canopy gaps are longer than 5m
Undisturbed ground and perennial vegetation	Fail	Less than 90% of the length of the hedge had more than 1m of undisturbed ground with perennial herbaceous vegetation

		Nutrient enriched perennial vegetation	Pass	Plant species indicative nutrient enrichment of soil were present and dominant in areas
		Invasive and neophytes species	Pass	More than 90% of the hedgerow and undisturbed ground is free of invasive non-native plant species
		Current damage	Pass	More than 90% of the hedgerow is free of damage
		No more than 2 failures in total; AND No more than 1 failure in any functional group."		
		Condition is assessed to be good .		
		Table 2. Native hedgerow condition assessment for hedgerow 3. A full condition assessment is available in appendix 10.		
		Category	Pass/fail criteria	Description
		Height	Pass	Hedge is taller than 1.5m
		Width	Fail	Hedge is not wider than 1.5m
		Gap – hedge base	Fail	Gap between base and canopy is more than 0.5m for at least 10% of length
Gap - hedge canopy	Fail	Gaps make up more than 10% of total length and but canopy gaps are not longer than 5m		
Undisturbed ground and perennial vegetation	Pass	At least 90% of the length of the hedge had more than 1m of undisturbed ground with perennial herbaceous vegetation		
Nutrient enriched perennial vegetation	Pass	Plant species indicative nutrient enrichment of soil were present and dominant in areas		
Invasive and neophytes species	Pass	More than 90% of the hedgerow and undisturbed ground is free of invasive non-native plant species		
Current damage	Pass	More than 90% of the hedgerow is free of damage		
"Fails a total of more than 4 attributes; OR Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition)."				

	Condition is assessed to be poor. <u>h2b</u> – Non-native and ornamental hedgerow A non-native cherry laurel (<i>Prunus laurocerasus</i>) hedgerow was observed on the southern border of the site. This portion of hedgerow was connected to ornamental hedgerow in the private gardens backing onto the field. The hedgerow contained one species and was 4 metres tall, 3 metres wide. <u>h3d</u> – Bramble scrub <i>Scrub parcel 1</i> A short area of bramble scrub was present in a ten-metre gap in hedgerow 1. The scrub was dense with no gaps, approximately 2 metres wide, less than 2 metres tall and ten metres long. Species present were bramble and one box hedge species. <i>Scrub parcel 2</i> Bramble scrub was observed in the eastern boundary of the site between native hedgerow and Bedford Road. The scrub was completely bramble dominated, very dense and also had a small number of trees within it. It dominated the space between hedgerow 2 and the adjacent road with no gaps. <i>Scrub parcel 3</i> Bramble scrub was observed in some places along the ditch on the northern boundary. The scrub was bramble dominated and very dense. The bramble measured approximately 3 metres wide and 1.5 metres tall. <u>g4</u> – Modified grassland Modified grassland was observed as edges to the footpath separating the northern and southern sides of the site. This area receives a moderate amount of footfall and is used as a private access road occasionally. This area was half mown which was approximately <5cm with the other half being approximately 1m in sword length. Across this area there were six species of vascular plants recorded with an average of four species per m² with a ratio of 80:20 grass to herbs. Historical imagery illustrates a continuous history of use and management. Species present: Grasses: D – Pyrennaial rye grass (<i>Lolium perenne</i>) O - Cocks foot (<i>Dactylis glomerata</i>), Yorkshire fog (<i>Holcus lanatus</i>) Forbs: O - White clover (<i>Trifolium repens</i>), Ribwort plantain (<i>Plantago lanceolata</i>), Dandelion (<i>Taraxacum officinale</i>) <u>g4</u> – modified grassland; Ruderal or ephemeral 81
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	<i>Ruderal parcel 1</i> Along the southern boundary, verging the edge of the field and amongst hedgerow 1, modified grassland was present with ruderal or ephemeral species. Vegetation was of about 0.5m in height with some mown areas to allow access to the adjacent allotments. Species present: Grasses: D – Perennial rye grass (<i>Lolium perenne</i>) Forbs: F – White dead nettle (<i>Lamium album</i>), cow parsley (<i>Anthriscus sylvestris</i>) O – Hogs weed (<i>Heracleum sphondylium</i>), common nettle (<i>Urtica dioica</i>), oxeye daisy (<i>Leucanthemum vulgare</i>) and teasel (<i>Dipsacus fullonum</i>). <i>Ruderal parcel 2</i> Along the eastern boundary between the crop land and the road, an area of modified grass with ruderal or ephemeral species was observed. This extended around the northeastern corner and was present around some of the length of the ditch on the northern boundary. Vegetation varied from 0.5-1.0m in height in some areas. Species present: Grasses: D – Perennial rye grass (<i>Lolium perenne</i>) Forbs: F – White dead nettle (<i>Lamium album</i>), cow parsley (<i>Anthriscus sylvestris</i>), common sorrel (<i>Rumex acetosa</i>) O – Hogs weed (<i>Heracleum sphondylium</i>), common nettle (<i>Urtica dioica</i>), oxeye daisy (<i>Leucanthemum vulgare</i>) and teasel (<i>Dipsacus fullonum</i>), ribwort plantain (<i>Plantago lanceolata</i>), mugwort (<i>Artemisia vulgaris</i>) and broad-leaved dock (<i>Rumex obtusifolius</i>). <i>Ruderal parcel 3</i> Along the western boundary and amongst a line of trees, some modified grassland with ruderal or ephemeral species was present. Vegetation varied from short due to mower or footfall to approximately 0.5m in height in some areas. Species present: Grasses: D – Perennial rye grass (<i>Lolium perenne</i>) Forbs: F – Cow parsley (<i>Anthriscus sylvestris</i>) O – Hogs weed (<i>Heracleum sphondylium</i>), common nettle (<i>Urtica dioica</i>), and teasel (<i>Dipsacus fullonum</i>).
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Table 3. condition assessment for all modified grassland and for modified grassland with ruderal or ephemeral parcels 1, 2 and 3. A full condition assessment is available in appendix 7.

Category	Pass/fail criteria	Description
Vascular plant species per m ²	Fail	Less than 6-8 vascular plants
Sward height and microclimates	Pass	Sward height is varied
Presence of scrub	Pass	Scrub makes up less than 20% of cover
Physical damage	Pass	Physical damage is less than 5% of cover
Bare ground cover	Pass	Bare ground is between 1-10%
Bracken cover	Pass	The cover of bracken is less than 20%
Invasive non-native plants	Pass	There are no invasive species identified
"Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)" Condition is assessed to be poor .		

c1c7 - Other cereal crops

The dominant habitat of the site is other cereal crop which makes up the entire internal area of the site other than the footpath. The crop is consistent throughout the whole site in type and length. The length was about 3 inches at the time of the survey.

h3d - Bramble scrub; Scattered trees 32

Four trees were observed amongst the hedgerow and scrub on the eastern side of the site, bordering the road. These are shown below. The tree condition assessment is available in Appendix 6.

Tree	Grid reference	Species	DBH (cm)	Size class	Condition score	Condition Category
T1	TL 17721 31490	Hornbeam	30	Medium	4	Moderate
T2	TL 17718 31507	Hornbeam	30	Medium	4	Moderate
T3	TL 17714 31525	Hornbeam	30	Medium	4	Moderate
T4	TL 17705 31563	Ash	100	Very large	5	Good

g4 - modified grassland; Ruderal or ephemeral 81; Scattered trees 32

Eight trees were observed amount the ruderal and ephemeral species dominated grassland along the road on the eastern side of the site.

Tree	Grid reference	Species	DBH (cm)	Size class	Condition score	Condition Category
T5	TL 17622 31827	Field Maple	20	Small	4	Moderate
T6	TL 17619 31833	Field Maple	20	Small	4	Moderate
T7	TL 17574 31893	Field Maple	18	Small	4	Moderate
T8	TL 17571 31900	Field Maple	18	Small	4	Moderate
T9	TL 17562 31912	Field Maple	19	Small	4	Moderate
T10	TL 17559 31917	Ash	20	Small	4	Moderate
T11	TL 17546 31938	Ash	20	Small	4	Moderate
T12	TL 17538 31980	Ash	62	Large	4	Moderate

g4 – modified grassland; Ruderal or ephemeral 81; Line of trees 33

14 trees made up a planted line of trees along the northern border, lining the ditch and amongst grassland dominated by ruderal and ephemeral species. The trees were evenly spaces and of very similar structure and size.

Tree	Grid reference	Species	DBH (cm)	Size class	Condition score	Condition Category
T13	TL 17484 31961	Field Maple	15	Small	4	Moderate
T14	TL 17483 31961	Field Maple	15	Small	4	Moderate
T15	TL 17482 31960	Field Maple	15	Small	4	Moderate
T16	TL 17482 31960	Field Maple	15	Small	4	Moderate
T17	TL 17481 31958	Field Maple	15	Small	4	Moderate
T18	TL 17481 31958	Field Maple	15	Small	4	Moderate
T19	TL 17480 31957	Field Maple	15	Small	4	Moderate
T20	TL 17480 31957	Field Maple	15	Small	4	Moderate
T21	TL 17478 31956	Field Maple	15	Small	4	Moderate
T22	TL 17478 31956	Field Maple	15	Small	4	Moderate
T23	TL 17475 31954	Field Maple	15	Small	4	Moderate
T24	TL 17475 31954	Field Maple	15	Small	4	Moderate
T25	TL 17473 31950	Field Maple	15	Small	4	Moderate
T26	TL 17473 31950	Field Maple	15	Small	4	Moderate

g4 – modified grassland; Ruderal or ephemeral 81; Line of trees 33

A group of trees was observed lining the western side of the site the edge of the agricultural field.

Tree	Grid reference	Species	DBH (cm)	Size class	Condition score	Condition Category)
T27	TL 17236 31503	Ash	40	Medium	5	Good
T28	TL 17237 31500	Ash	30	Medium	5	Good
T29	TL 17238 31498	Ash	30	Medium	5	Good
T30	TL 17243 31483	Oak	100	Extra Large	6	Good
T31	TL 17260 31460	Oak	65	Large	6	Good
T32	TL 17267 31447	Oak	50	Medium	5	Good
T33	TL 17267 31447	Blackthorn	20	Small	4	Moderate
T34	TL 17275 31434	Hawthorn	18	Small	4	Moderate
T35	TL 17282 31421	Oak	100	Extra Large	6	Good
T36	TL 17300 31394	Oak	76	Large	6	Good

g4 – modified grassland; ditch 50

An artificial ditch was present along the northwestern boundary. The majority of the area around the ditch was modified grassland with ruderals as well as some areas of bramble scrub. The ditch was approximately 1.5m in depth from the top of the bank and 2-3m wide at the top of the bank. The ditch measured approximately 500m in length. More than 95% of the ditch was dry with a short section at about 3 inches in depth. Two macrophyte species was observed which was yellow iris (*Iris pseudacorus*) and bulrush (*Typha latifolia*) – these were limited to the small area with water. The ditch was assessed to be of poor condition as shown below. A condition assessment is available in appendix 11.

Category	Pass/ fail criteria
Water quality	Fail
Macrophytes	Fail
Duckweed	Pass
Marginal vegetation	Fail
Physical damage	Pass
Water levels	Fail
Shade	Fail
Absence of non-natives	Pass
“Passes 5 or fewer criteria”	
Scores 3/8 = poor condition	

	Local notable habitats Patches of lowland mixed deciduous woodland (LMDW) are present in close proximity to the site. The closest is located ~0.2km to the east, with a second patch of LMDW ~0.35km to the southeast. The trees on-site likely have functional connectivity to these patches of woodland, given their proximity to the site and the presence of numerous trees throughout the garden landscape. LMDW is classed as a priority habitat under Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. Further priority habitats are present within 2km of the site, traditional orchard, reedbeds, lowland fens, lowland meadows, and coastal and floodplain grazing marsh.		
Foreseen Impacts	On-site habitats The proposed development will result in the loss of approximately 9.5ha of cereal crop habitat. Furthermore, 2 trees and one short portion of hedgerow will be felled to facilitate the development as well as approximately 0.25ha of ruderal and scrub land around the hedgerow and trees. The loss of cereal crop farmland is likely to have minimal impact on biodiversity considering it is intensively managed. Trees, hedgerow and scrub provide ecological niches and therefore the impact of their loss could be more substantial. However, the development also involves the planting of numerous trees and hedgerow therefore the net impact will likely be positive. Notable habitats No direct impacts to any notable habitats will occur as a result of the proposed development.		
Recommendations	On-site habitats Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012). Biodiversity net gain The Environment Act (2021) requires all developments (excluding exemptions) to deliver a 10% net gain in biodiversity. Therefore, the planning application must be accompanied by a landscaping/habitat creation and enhancement strategy, biodiversity net gain calculations. A habitat management and monitoring plan to ensure the proposed development delivers a 10% net gain should be supplied as a condition of the planning application.		
Locality and Designated Sites			
Summary of Survey Findings	On-site designations The site is not subject to any designation.		
	Statutory designated sites (within 2km) There are two statutory sites within 2km of the site, as detailed below:		
	Site	Distance; orientation	Description

	Oughtonhead Common (LNR)	~0.45km; south	A 17ha nature reserve with a chalk spring river, the River Oughton. Habitats include reed beds, wet grassland, wet ditches, hedgerow and woodland.
	Oughtonhead Lane (SSSI)	~1.4km; south	A small trip of woodland and arable margin habitats near by to Oughtonhead common.
	The site lies within the impact risk zone for Oughtonhead Lane SSSI and Knocking Hoe SSSI.		
	Statutory designated sites (within 10km) No national network sites (SAC, SPA, Ramsar) are located within 10km.		
	Non-statutory designated sites The presence of non-statutory designated sites within 2km of the site cannot be established without data from Herts Environmental Records Centre.		
Foreseen Impacts	On-site designations No impacts foreseen.		
	Statutory and non-statutory designated sites The site lies within the impact risk zone for Oughtonhead Lane SSSI. The proposed development type is listed as a possible high risk for this designation.		
	The site also lies within the impact risk zone for Knocking Hoe SSSI but the proposed development is not listed as a possible high risk for this designation.		
Recommendations	On-site designations None required.		
	Statutory and non-statutory designated sites The Local Planning Authority (LPA) may be required to consult with Natural England regarding potential impacts to Oughtonhead Lane.		
	Invasive / Non-native species		

Summary of Survey Findings	No problematic invasive and non-native species recorded on site.																		
Foreseen Impacts	N/A																		
Recommendations	No further surveys but remain vigilant.																		
Invertebrates																			
Summary of Survey Findings	The habitats present on-site, including trees, hedgerow and ruderals and ephemerals, likely provide common invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates.																		
Foreseen Impacts	None foreseen.																		
Recommendations	No further surveys. Suggested biodiversity enhancements The incorporation of bee bricks (e.g. Ibstock BeeHabitat or similar alternative brand) into the fabric of the new buildings would provide sheltering opportunities for pollinators. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation. The site could be further enhanced via the provision of native wildflowers or wildflower turf, which would provide foraging opportunities for invertebrates.																		
Bats																			
Summary of Survey Findings	EPSL data and local records A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed. Displaced bats from licensed sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licensed site. There are three EPSLs within a 2km radius of site as detailed below: <table><tr><th>EPSL reference</th><th>Bat species affected</th><th>Distance from site</th><th>Impacts allowed by licence</th></tr><tr><td>EPSM2012-5071</td><td>Common pipistrelle</td><td>~0.3km</td><td>Destruction of a resting place</td></tr><tr><td>2016-21240-EPS-MIT</td><td>Soprano pipistrelle</td><td>~1.6km</td><td>Destruction of a resting place</td></tr><tr><td>EPSM2013-5803</td><td>Common pipistrelle</td><td>~1.8km</td><td>Destruction of a resting place</td></tr></table> There are no Special Areas of Conservation designated for bats within 10km of the site.			EPSL reference	Bat species affected	Distance from site	Impacts allowed by licence	EPSM2012-5071	Common pipistrelle	~0.3km	Destruction of a resting place	2016-21240-EPS-MIT	Soprano pipistrelle	~1.6km	Destruction of a resting place	EPSM2013-5803	Common pipistrelle	~1.8km	Destruction of a resting place
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	Foraging and commuting habitat Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of grassland, cropland, native hedgerow and trees. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. Most notably, the hedgerows on site are mature and extend beyond the site adding to the continuity of vegetated linear features present in the wider landscape. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites. Foraging and commuting habitat is found to be of moderate value. Roosting habitat Trees to be impacted by the proposed development are assessed for their suitability to support roosting bats below. There is a total of 36 trees on site. Only T1 and T2 were surveyed as they will be impacted by the proposed development. No suitable roosting features were observed on the surveyed trees on-site.
<i>Foreseen Impacts</i>	Roosting habitat [Trees] T1 and T2 will be felled to facilitate the development. No features were identified on these trees and as such there are unlikely to be any impact to bats as a result of felling. Foraging and commuting habitat The proposed development will result in the loss of cereal crop, hedgerow and two trees. This could reduce the availability of foraging or commuting resources in the locality and could also disrupt dispersal corridors for bats leaving or returning to roosts in the wider area. Also, the proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas. Artificial lighting The proposed development may lead to an increase in the amount of current lighting of surrounding habitats or the retained building without mitigation. This may disturb commuting bats.
<i>Recommendations</i>	Foraging and commuting habitat Bat activity surveys, comprising walked transects and static monitoring, will be required to determine the usage of the site by foraging and commuting bats as well as to identify the likely presence or absence or any bat roosts in the vicinity, particularly those of high conservation value including maternity roosts. Due to the moderate value of the habitats present on the site a total of three visits, one per season between spring and autumn, will be required to gather sufficient information to enable a full assessment to be made. Each visit will involve an activity survey and the deployment of 5 static detectors to be deployed for a week. The activity survey as recommended have been booked in with Arbtech and will be completed in April, June and September of 2026.

	Artificial lighting A low impact lighting strategy will be adopted for the site during post-development which outlines the areas of the site that will be retained as dark corridors. Parameters can be found on the Bat Conservation Trust website: https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting-2 Suggested biodiversity enhancements The installation of one bat box per four dwellings constructed at the site will provide additional roosting habitat for bats. For example, if 200 dwellings are built there should be 50 bat boxes. The bat boxes will be incorporated into the fabric of the new dwellings. They will be suitable for pipistrelles (which have been identified locally through EPSL data). Suitable bat boxes include Habibat Bat Box, Ibstock Enclosed Bat Box or similar alternative brand. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
Birds	
<i>Summary of Survey Findings</i>	Trees and vegetation Eight bird nests were identified within the vegetation on-site. 1 was observed in hedgerow 1 and 7 were observed in hedgerow 3. Barn owls The site does not appear to provide any suitable nesting sites for barn owls. Overwintering birds Six golden plovers were observed on site which are known to overwinter on farmland. Thus, the site is considered suitable to support overwintering birds, including protected and/or notable birds.
<i>Foreseen Impacts</i>	Buildings/trees The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. Barn owls None foreseen. Overwintering birds Cereal crop farmland, trees and hedgerow will be removed during construction. The loss of such habitats could result in a reduction in nesting/breeding/foraging/overwintering habitat. Furthermore, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.
<i>Recommendations</i>	Buildings/trees

	Hedgerow, tree, grassland or cereal crop land removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained nests so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests until the young have fledged. Barn owls None required. Breeding birds Breeding bird surveys will be required to establish the value of the site for breeding birds. This will comprise three visits from May to July to record breeding activity (Gilbert et al, 1998). Suggested biodiversity enhancements The installation of a minimum of 50 bird boxes on mature trees around the site boundaries or on retained buildings will provide additional nesting habitat for birds. These should be a combination of tree boxes and swift boxes on houses. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings) Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole. Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
Reptiles	
<i>Summary of Survey Findings</i>	EPSL data and local records A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. Habitat suitability

	Habitats recorded on site are assessed to provide foraging, commuting, basking and refuge opportunities for reptiles. The hedgerow and scrub provide elevated value for reptiles as these habitats provide a suitable structure for refuge, whilst also providing foraging and commuting opportunities. However, it is important to note that the site is dominated by frequently managed crop land which is of limited value to reptiles. This habitat is suboptimal due to an absence of notable habitat structure and diversity, which significantly limits refuge, foraging, and commuting opportunities, albeit they do provide some basking opportunities when located adjacent to potential refugia. The site has good connectivity to further suitable reptile habitat in the wider landscape via hedgerow. The presence of reptiles on site cannot be discounted, albeit likely limited to low numbers within peripheral scrub. The dominant habitat onsite (cereal crop) is considered unsuitable for reptiles due to the species content (common and widespread species with minimal diversity) and associated management (farming), where at the time of the survey the grassland was recorded as being a relatively short sward. Wider landscape The adjacent sections of agricultural land and further native hedgerow are of elevated ecological value within the wider landscape and may represent important resources for local reptile populations. These adjacent habitats provide optimal foraging, commuting, and refuge opportunities for reptiles and are well connected to further suitable habitat in the wider landscape. The presence of reptiles utilising these adjacent habitats cannot be discounted.
<i>Foreseen Impacts</i>	No impacts are anticipated on reptiles as a result of the proposed development. Crop land, trees and a small section of hedgerow will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.
<i>Recommendations</i>	A precautionary working method will be implemented for widespread reptiles during construction, including the following measures: • Vegetation will be maintained at a short sward (5cm) to discourage reptiles. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a reptile is identified, works must cease and advice must be sought from a suitably qualified ecologist. Suggested biodiversity enhancements

	The site could be enhanced for reptiles post-development with the inclusion of log piles (created from felled materials) and planting of areas of native shrubs, to provide sheltering opportunities.		
Amphibians			
Summary of Survey Findings	EPSL and survey data and biological records data A review of the MAGIC database returned no granted EPSL records for great crested newts within 2km of the site. Further, no positive class survey licence return or DLL historic survey data (2017 – 2019) were present within 2km of the site.		
	Aquatic habitat suitability (including ponds within 500m) Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). There are no ponds on the site, but a review of aerial imagery (MAGIC and OS Maps) indicates the presence of a singular pond within 500m; the pond (P1) is located ~0.44km south of the site. This pond is suitably connected to the site, due to lack of significant obstructions such as curbed roads or rivers. A pond map showing approximate pond locations is provided in Appendix 5. Terrestrial habitat suitability The site provides limited suitable terrestrial habitat for amphibians given the lack of optimal habitat (i.e. scrub, rank grassland). The areas of ruderals and amenity grass offer sub-optimal habitat for terrestrial amphibians. The hedgerows and ditch may offer refuge for these species; however, it is considered unlikely that amphibians will migrate on to site. The dominant habitat on site was cereal crop which is considered to be unsuitable habitat for amphibians due to its short uniform structure and intensive management.		
Foreseen Impacts	When georeferencing the proposed development plans over scaled mapping of the site, it is noted that the development area is likely to result in the loss or significant disturbance of approximately 9.5ha of cereal crop land. If great crested newts are present within the pond ~450m to the south of the site, when completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces an Amber risk score , which states: Offence Likely (see Figure 1 below).		
	Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
	Great crested newt breeding pond(s)	No effect	0

	Land within 100m of any breeding pond(s)	No effect	0
	Land 100-250m from any breeding pond(s)	No effect	0
	Land >250m from any breeding pond(s)	5 - 10 ha lost or damaged	0.3
	Individual great crested newts	No effect	0
	Maximum:		0.3
	Rapid risk assessment result:	AMBER: OFFENCE LIKELY	
	However, only a short section of suitable habitat will be removed with the majority of the habitat lost being cereal crop which is suboptimal habitat for amphibians. Thus, the impact to amphibians is not considered to be significant. The amount of suitable habitat to be lost and the associated risk is shown to produce a Green risk score , which states: Offence unlikely (see below).		
	Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
	Great crested newt breeding pond(s)	No effect	0
	Land within 100m of any breeding pond(s)	No effect	0
	Land 100-250m from any breeding pond(s)	No effect	0
	Land >250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.001
	Individual great crested newts	No effect	0
	Maximum:		0.001
	Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	
Recommendations	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: - A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. - Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. - Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use.		

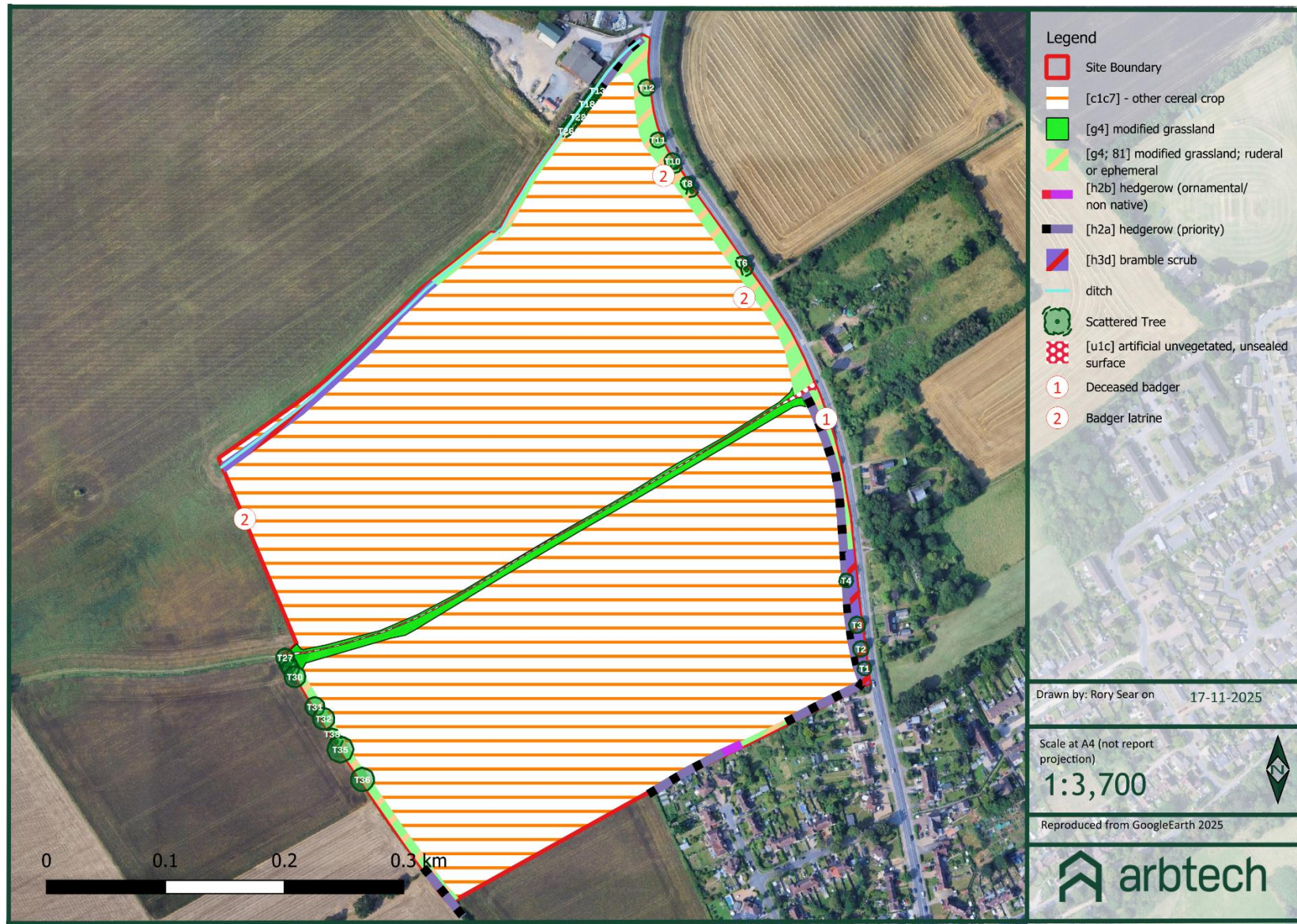
	- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. - If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. - In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist. Suggested biodiversity enhancements The site could be enhanced for amphibians post-development through creation of amphibian hibernacula using rubble and logs from site clearance. Information on how to construct a hibernaculum can be found here: https://www.wiltshirewildlife.org/hibernaculum
Badger	
<i>Summary of Survey Findings</i>	No badger setts were noted on site or within a 30m radius of the site. However, four badger latrines were observed on-site as well as a deceased adult badger along the eastern border of the site. This indicates a badger set is likely in close proximity to the site.
<i>Foreseen Impacts</i>	No works will be undertaken within 30m of a badger sett. Hedgerow, trees and cropland will be removed during construction. The loss of such habitats is likely to be inconsequential to local badger populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of badgers, if present.

<i>Recommendations</i>	Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site. • A pre-commencement inspection of the site will be undertaken for any new badger activity if works do not commence within three months. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where badger setts could be present. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that a badger sett is identified, works must cease and advice must be sought from a suitably qualified ecologist. Suggested biodiversity enhancements Planting fruit bearing trees and species-rich grassland to increase foraging opportunities for badgers.
Riparian animals	
<i>Summary of Survey Findings</i>	A review of the MAGIC database returned no granted EPSL records for otters or water voles within 2km of the site. There is one water course connected to the site. The watercourse is a dry ditch amongst grassland habitat along the northern boundary of the site with minimal riparian plant species. There were no further riparian habitats present on site or within an influencing distance.
<i>Foreseen Impacts</i>	Works are to occur on the ditch mainly involving enhancement and extension. In the unlikely event that water voles or evidence of water voles is identified, works must cease and advice must be sought from a suitably qualified ecologist.
<i>Recommendations</i>	Water voles Owing to the nature of the proposed development and the low potential for impacts to water voles, further water vole surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of water vole at the site. • Heras fencing will be erected around the working area to prevent encroachment within 5m of the watercourse. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.

	- The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to the watercourse and any retained habitats which water voles could use. - Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that water vole could use. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that water voles or evidence of water voles is identified, works must cease and advice must be sought from a suitably qualified ecologist. Suggested biodiversity enhancements Planting species rich grassland close to the watercourse to increase foraging opportunities for water voles.
Hazel dormouse	
<i>Summary of Survey Findings</i>	EPSL data and local records A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. Habitat suitability Habitats on site are assessed to provide some foraging, commuting, and nest building opportunities for dormice in the form of native hedgerow. However, the site is enclosed by urban infrastructure including roads and residential development. These landscape features fragment suitable dormice habitat in the wider landscape and are likely to limit dispersal opportunities to the site. Thus, the hedgerows on site are deemed to be fragmented from the wider landscape and unlikely to support hazel dormice.
<i>Foreseen Impacts</i>	No impacts are anticipated on hazel dormice as a result of the proposed development.
<i>Recommendations</i>	None foreseen.
Other e.g. hedgehog	
<i>Summary of Survey Findings</i>	The ruderal herb, grassland and hedgerows onsite provide some foraging and commuting opportunities for hedgehogs, with woodland habitat nearby.
<i>Foreseen Impacts</i>	Hedgerow will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.
<i>Recommendations</i>	Similar to the badgers, a precautionary working method will be implemented during construction, including the following measures: - Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. - The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use.

	- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. Suggested biodiversity enhancements The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: - Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. - Creation of brash piles or installation of hedgehog houses in shady areas. - Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
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Appendix 1: Survey/Habitat map



Appendix 2: Location map



Appendix 3: Proposed plan



Appendix 4: Habitat Photos

Figure 1: Cereal crop	Figure 2: Cereal crop
	
Facing east towards Bedford Road.	Facing north.
Figure 3: Native hedgerow	Figure 4: Ruderal or ephemeral
	
Hedgerow 1 on the southern boundary.	Ruderal or ephemeral parcel 1 along the southern boundary. Backing onto private gardens and allotments.

Figure 5: Native hedgerow	Figure 6: Native hedgerow
	
Facing north along native hedgerow 2.	Mammal corridor in native hedgerow 2 towards the Bedford road.
Figure 7: Scattered trees and bramble scrub	Figure 8: Ruderal or ephemeral
	
Tree 4 covered in ivy and with bat roosting features. Bramble scrub can be seen in the foreground between the hedgerow and the road.	Ruderal or ephemeral parcel 2 along the eastern side of the site.

Figure 9: Deceased badger

Target note 1: deceased adult badger by Bedford Road.

Figure 10: Badger latrine

Target note 1: Badger latrine on the eastern side of the site.

Figure 11: Native hedgerow

Native hedgerow in northeastern corner of site.

Figure 12: Nest

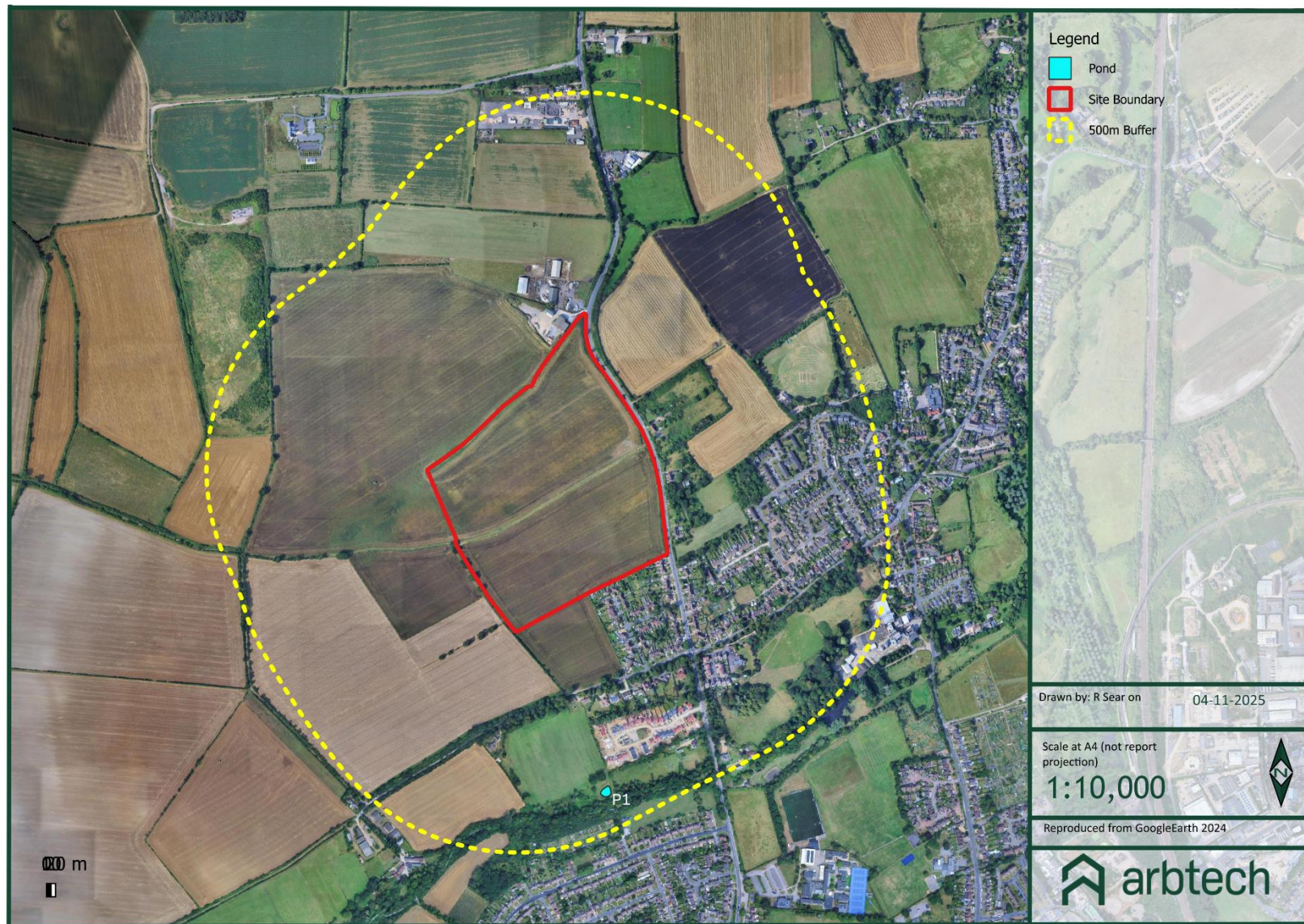
One of the nests observed in hedgerow 3.

Figure 13: Ditch and ruderal or ephemeral	Figure 14: Scattered trees
	
Only wet portion of the ditch with approxitly two inches in depth.	Line of field maple trees on the northern boarding lining the ditch
Figure 15: Ditch	Figure 16: Ditch
	
Section of ditch with dry conditions and ephemeral and ruderal plant species.	Section of ditch with dry condition and bramlbe scrub dominating.

Figure 17: Badger latrine	Figure 18: Modified grassland and unsealed surface
	
Target note: Badger latrine in the middle of the cereal crop field	Unsealed artificial public footpath and amenity grassland due to footfall and management.
Figure 19: Scattered trees	Figure 20: Scattered trees
	
Ash trees T27, T28 and T29 – facing west.	Extra-large oak tree with roosting features - T30.

Figure 21: Ruderal or ephemeral	Figure 22: Native hedgerow
	
Ruderal and ephemeral forming the western boarder of the site.	Native hedgerow forming a section of the western boarder of the site.

Appendix 5: Pond Map



Appendix 6: Tree assessment of condition

Condition Assessment Criteria		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
		Criterion passed (Yes or No)									
A	The tree is a native species (or at least 70% within the block are native species).	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES
C	The tree is mature (or more than 50% within the block are mature) ¹ .	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of criteria passed		4	4	4	5	4	4	4	4	4	4

		Grid reference									
		T11	T12	T13	T14	T15	T16	T17	T18	T19	T20
Condition Assessment Criteria		Criterion passed (Yes or No)									
A	The tree is a native species (or at least 70% within the block are native species).	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
C	The tree is mature (or more than 50% within the block are mature) ¹ .	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of criteria passed		4	4	4	4	4	4	4	4	4	4

Condition Assessment Criteria		T21	T22	T23	T24	T25	T26	T27	T28	T29	T30
		Criterion passed (Yes or No)									
A	The tree is a native species (or at least 70% within the block are native species).	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
C	The tree is mature (or more than 50% within the block are mature) ¹ .	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of criteria passed		4	4	4	4	4	4	5	5	5	6

		Grid reference									
Condition Assessment Criteria		T31	T32	T33	T34	T35	T36				
		Criterion passed (Yes or No)									
1	The tree is a native species (or at least 70% within the block are native species).	YES	YES	YES	YES	YES	YES				
3	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	YES	YES	YES	YES	YES	YES				
2	The tree is mature (or more than 50% within the block are mature) ¹ .	YES	YES	NO	NO	YES	YES				
3	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	YES	YES	YES	YES	YES	YES				
1	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	YES	NO	NO	NO	YES	YES				
1	More than 20% of the tree canopy area is oversailing vegetation beneath.	YES	YES	YES	YES	YES	YES				
Number of criteria passed		6	5	4	4	6	6				

Appendix 7: Modified grassland assessment of condition

Condition Assessment Criteria		Criterion passed (Yes or No)
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs (these may include those listed in Footnote 1). Note – this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	NO
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	YES
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note – patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	YES
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	YES
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	YES
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	YES
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	YES

Appendix 8: Hedgerow regulations assessment for H1.

Hedgerow Regulations Criteria	Comments
1. The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose "historic" means existing before 1850.	No
2. The hedgerow incorporates an archaeological feature which is— (a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979(1); or (b) recorded at the relevant date in a Sites and Monuments Record.	No
3. The hedgerow— (a) is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and (b) is associated with any monument or feature on that site.	No
4. The hedgerow— (a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Sites and Monuments Record or in a document held at that date at a Record Office; or (b) is visibly related to any building or other feature of such an estate or manor.	No
5. The hedgerow— (a) is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the <u>Inclosure Acts</u> ; or	No

(b) is part of, or visibly related to, any building or other feature associated with such a system, and that system— (i) is substantially complete; or (ii) is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act, for the purposes of development control within the authority's area, as a key landscape characteristic.	
6. (1) The hedgerow— (a) contains species listed or categorised as mentioned in sub-paragraph (3); or (b) is referred to in a record held immediately before the relevant date by a biological record centre maintained by, or on behalf of, a local authority within the meaning of the Local Government Act 1972, and in a form recognised by the Nature Conservancy Council for England, the Countryside Council for Wales or the Joint Nature Conservation Committee, as having contained any such species— (i) in the case of animals and birds, subject to sub-paragraph (2), within the period of five years immediately before the relevant date. (ii) in the case of plants, subject to sub-paragraph (2), within the period of ten years immediately before the relevant date; (2) Where more than one record referable to the period of five or, as the case may be, ten years before the relevant date is held by a particular biological record centre, and the more (or most) recent record does not satisfy the criterion	No

specified in sub-paragraph (1)(b), the criterion is not satisfied (notwithstanding that an earlier record satisfies it).

(3) The species referred to in sub-paragraph (1) are those—

(a) listed in Part I (protection at all times) of Schedule 1 (birds which are protected by special penalties), Schedule 5 (animals which are protected) or Schedule 8 (plants which are protected) to the Wildlife and Countryside Act 1981;

(b) categorised as a declining breeder (category 3) in "Red Data Birds in Britain" Batten LA, Bibby CJ, Clement P, Elliott GD and Porter RF (Eds.), published in 1990 for the Nature Conservancy Council and the Royal Society for the Protection of Birds (ISBN 0 85661 056 9); or

(c) categorised as "endangered", "extinct", "rare" or "vulnerable" in Britain in a document mentioned in sub-paragraph (4).

(4) The documents referred to in sub-paragraph (3)(c) are—

(a) of the books known as the British Red Data Books:

1. "Vascular Plants" Perring FH and Farrell L, 2nd Edition, published in 1983 for the Royal Society for Nature Conservation (ISBN 0 902484 04 4);

2. "Insects" Shirt DB (Ed.), published in 1987 for the Nature Conservancy Council (ISBN 0 86139 380 5); and

3. "Invertebrates other than Insects" Bratton JH (Ed.), published in 1991 for the Joint Nature Conservation Committee (ISBN 1 873701 00 4); and

(b) of the books known as the Red Data Books of Britain and Ireland: <u>"Stoneworts"</u> Stewart NF and Church JM, published in 1992 for the Joint Nature Conservation Committee (ISBN 1 873701 24 1)	
7. (1) Subject to sub-paragraph (2), the hedgerow includes— (a) at least 7 woody <u>species</u>; (b) at least 6 woody species, and has associated with it at least 3 of the features specified in sub-paragraph (4); (c) at least 6 woody species, including one of the following— black-poplar tree (<u>Populus nigra ssp betulaefolia</u>); large-leaved lime (<u>Tilia platyphyllos</u>); small-leaved lime (<u>Tilia cordata</u>); wild service-tree (<u>Sorbus torminalis</u>); or (d) at least 5 woody species, and has associated with it at least 4 of the features specified in sub-paragraph (4), and the number of woody species in a hedgerow shall be ascertained in accordance with sub-paragraph (3). (2) Where the hedgerow in question is situated wholly or partly in the county (as constituted on 1st April 1997) of the City of Kingston upon Hull, Cumbria, Darlington, Durham, East Riding of Yorkshire, Hartlepool, Lancashire, Middlesbrough, North East Lincolnshire, North Lincolnshire, Northumberland, North Yorkshire, Redcar and Cleveland, Stockton-on-Tees, Tyne and Wear, West Yorkshire or York, the number of woody species mentioned in paragraphs (a) to (d) of sub-paragraph (1) is to be treated as reduced by one.	Yes

(3) For the purposes of sub-paragraph (1) (and those of paragraph 8(b))— (a) where the length of the hedgerow does not exceed 30 metres, count the number of woody species present in the <u>hedgerow</u>; (b) where the length of the hedgerow exceeds 30 metres, but does not exceed 100 metres, count the number of woody species present in the central stretch of 30 <u>metres</u>; (c) where the length of the hedgerow exceeds 100 metres, but does not exceed 200 metres, count the number of woody species present in the central stretch of 30 metres within each half of the hedgerow and divide the aggregate by <u>two</u>; (d) where the length of the hedgerow exceeds 200 metres, count the number of woody species present in the central stretch of 30 metres within each third of the hedgerow and divide the aggregate by three. (4) The features referred to in sub-paragraph (1)(b) and (d) (which include those referred to in paragraph 8(b)) are— (a) a bank or wall which supports the hedgerow along at least one half of its <u>length</u>; (b) gaps which in aggregate do not exceed 10% of the length of the <u>hedgerow</u>; (c) where the length of the hedgerow does not exceed 50 metres, at least one standard <u>tree</u>; (d) where the length of the hedgerow exceeds 50 metres but does not exceed 100 metres, at least 2 standard <u>trees</u>;	
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(e) where the length of the hedgerow exceeds 100 metres, such number of standard trees (within any part of its length) as would when averaged over its total length amount to at least one for each 50 <u>metres</u>; (f) at least 3 woodland species within one metre, in any direction, of the outermost edges of the <u>hedgerow</u>; (g) a ditch along at least one half of the length of the <u>hedgerow</u>; (h) connections scoring 4 points or more in accordance with sub-paragraph (5); (i) a parallel hedge within 15 metres of the hedgerow. (5) For the purposes of sub-paragraph (4)(h) a connection with another hedgerow scores one point and a connection with a pond or a woodland in which the majority of trees are broad-leaved trees scores 2 points; and a hedgerow is connected with something not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.	
8. The hedgerow— (a) is adjacent to a bridleway or footpath, within the meaning of the Highways Act 1980, a road used as a public path, within the meaning of section 54 (duty to reclassify roads used as public paths) of the Wildlife and Countryside Act 1981, or a byway open to all traffic, within the meaning of Part III of the Wildlife and Countryside Act 1981, and (b) includes at least 4 woody species, ascertained in accordance with paragraph 7(3) and at least 2 of the features specified in paragraph 7(4)(a) to (g).	Yes

Appendix 9. Native hedgerow condition assessment – hedgerow 1, 2 and 4

Hedgerow favourable condition attributes				
Attributes and functional groupings (A, B, C, D and E)		Criteria – the minimum requirements for ‘favourable condition’	Criteria description	Criterion passed (Yes or No)
Core groups – applicable to all hedgerow types				
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	YES
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn <i>Rhus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	YES
B1.	Gap – hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical ‘gappiness’ of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	YES
B2.	Gap – hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal ‘gappiness’ of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall ‘gappiness’ but are not subject to the >5 m criterion (as this is the typical size of a gate).	YES

C1.	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	NO
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	YES
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA ³) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ⁴ , as well as the BSBI website ⁵ where the 'Online Atlas of the British and Irish Flora' ⁶ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁷ .	YES
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	YES

Appendix 10. Native hedgerow condition assessment – hedgerow 3

Hedgerow favourable condition attributes				
Attributes and functional groupings (A, B, C, D and E)		Criteria – the minimum requirements for ‘favourable condition’	Criteria description	Criterion passed (Yes or No)
Core groups – applicable to all hedgerow types				
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	YES
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	NO
B1.	Gap – hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical ‘gappiness’ of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	NO
B2.	Gap – hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal ‘gappiness’ of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall ‘gappiness’ but are not subject to the >5 m criterion (as this is the typical size of a gate).	NO

C1.	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	YES
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	YES
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA ³) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ⁴ , as well as the BSBI website ⁵ where the 'Online Atlas of the British and Irish Flora' ⁶ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁷ .	YES
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	YES

Appendix 11. Ditch condition assessment**Condition Sheet: DITCH Habitat Type**

Condition Assessment Criteria		Criterion passed (Yes or No)
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	no
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	no
C	There is less than 10% cover of filamentous algae and or duckweed <i>Lemna</i> spp. (these are signs of eutrophication).	yes
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	no
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	yes
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	no
G	Less than 10% of the ditch is heavily shaded.	yes
H	There is an absence of non-native plant and animal species ¹ .	yes

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