



Millie Holland BSc (Hons), MSc

Consultant Ecologist

Email: millieholland@arbtech.co.uk

Arbtech Consulting Ltd

arbtech.co.uk

Preliminary Ecological Appraisal

Survey site:

Markfield Road, Ratby, Leicester, LE6 0LU

Client:

Ryan Pasch

Survey date:

11th November 2024

Project:

This report is prepared to inform a planning application with the Hinckley and Bosworth Borough Council. The proposal is described as: to create a small intimate glamping retreat.

Survey methodology and legislation can be found in the Arbtech Supplement: [PEA Methodology and Legislation - 2024.](#)

The site survey was undertaken by Millie Holland BSc (Hons), MSc, Graduate (Accredited Agent on Natural England Bat Licence Number: 2018-33540-CLS-CLS)					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (mph)	Rain
11/11/2024	11	69	0	6	None
Executive summary					
The proposed development will require Biodiversity Net Gain calculations to ensure a gain in biodiversity because of the proposed development. There should also be a Construction Environment Management Plan (CEMP) done to prevent secondary impacts on the nearby deciduous woodland. In order to protect dark corridors for foraging and commuting bats, a low impact lighting strategy will be adopted. To protect individuals during construction precautionary working method should be adopted for nesting birds, reptiles, amphibians, badgers and hedgehogs.					
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) limiting the identification of ground flora species.					

Ecological Survey Factor	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.
Conclusion, Impact or Recommendations	
Habitats and plants (see habitat map in appendix 1, location plan in appendix 2, photos in appendix 3 and proposal plan in appendix 4).	

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> <i>(UKHab codes used)</i>	The survey site is centred on National Grid Reference SK 4907 3047 and has an area of approximately 0.4ha. The site is a smaller area of a larger owned boundary. The site consists of woodland, artificial unsealed, unvegetated surface, and grassland. The site is immediately surrounded by agricultural land, campsites and pockets of woodland. The wider landscape consists of further agricultural land, woodland, residential properties and the M1. The closest water way is the pond within the owned boundary of the site. Artificial unvegetated, unsealed surface (U1c) bare ground (510) The southeast area of the site is dominated by unsealed surface. The entrance to the site is unsealed hardstanding ground, to the northwest of this area there is an area of bare ground that extends north. This area has previously been used for motorcross riding; therefore, the area does not have any vegetation associated with it. These unsealed areas are used as storage for brash. Modified grassland (G4) To the west of the site, there is an area of modified grassland which appears to be regularly managed, likely through mowing or light maintenance. This grassland supports a range of common and widespread species typical of moderately improved or semi-improved habitats. • Dominant (D): Red fescue • Abundant (A): Perennial ryegrass • Frequent (F): Moss • Occasional (O): Creeping buttercup • Rare (R): Male fern, clover, ground ivy, cow parsley

	<i>Modified grassland condition assessment</i> There are less than 6 species per sqm. The sward height is not varied. There is no scrub present within the site. Physical damage is not evident within less than 5%. The cover of bare ground is less than 10%. The cover of bracken is less than 20%. There is an absence of invasive non-native plant species. Other broadleaved woodland (W1g) There is an area within the middle of the site that is broadleaved woodland. The ground layer is dominated by bramble with the occasional area of nettles and cow parsley. The canopy layer species include oak, birch, ash and field maple. The trees are all similar in age, due to the time they were planted, however there are also some self-seeded saplings, that are younger in age. <i>Other broadleaved woodland condition assessment</i> There is only one age class present across the habitat parcel. There is no significant browsing damage evident, and no invasive non-native species within the woodland. There are three to four native trees or shrub present across the habitat parcel. Over 80% of the canopy trees and understory shrubs are native. Between 21%-40% woodland has area of temporary open space. One or two classes only present in the woodland. The tree mortality is less than 10%. No recognised woodland NVC plant communities at ground layer present. There are two stores across all survey plots. There are no veteran trees present. Less than 25% of all survey plots within the woodland have deadwood. There is evidence of nutrient enrichment. Other standing water (r1g) pond (42)
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	At the centre of the site lies a large pond, occupying approximately 0.35 hectares of the total site area. The pond is a dominant landscape feature and provides an aquatic habitat of moderate ecological interest. It supports a substantial population of carp, a species known to influence water quality and ecological balance through their foraging behaviour, which can lead to increased turbidity and reduced aquatic vegetation. Around the perimeter of the pond, there is a mosaic of marginal vegetation, including patches of common reed and scattered woody shrubs, which contribute structural diversity and offer refuge and foraging opportunities for a range of terrestrial and semi-aquatic species. These features enhance the pond's ecological complexity and increase its potential value for birds, amphibians, and invertebrates, particularly those reliant on marginal or emergent vegetation for part of their lifecycle. <i>Pond condition assessment</i> The pond exhibits bad water quality, with high turbidity, indicating some signs of pollution or nutrient enrichment. The water surface is largely free from duckweed or filamentous algae, with less than 10% coverage, and there is an absence of non-native invasive species, both plant and animal. Additionally, the pond is not heavily shaded, with no more than 50% of the surface covered by shade from adjacent trees or scrub, allowing for adequate light penetration. However, several ecological limitations are present. The pond is artificially stocked with a large population of carp, a non-native species typically associated with reduced aquatic biodiversity. It is also artificially connected to surrounding waterbodies and lacks the ability to fluctuate water levels naturally, suggesting the presence of artificial infrastructure such as pipework or dams. Furthermore, the pond is not surrounded by semi-natural habitat, with less than 10 metres of natural buffer zone around the perimeter. Aquatic vegetation is limited, with less than 50% cover of emergent, submerged, or floating plants in shallow areas. The overall condition of the pond is poor.
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	Surrounding priority habitat Within 2km there are priority habitats, these include deciduous woodland (closest ~20m north), ancient woodland (closest ~210m west), traditional orchard (closest ~1000m northwest), and lowland fens (closest ~1,585m northwest). The site has connections to the deciduous woodland due to the proximity, however the fragmentation of the other priority habitats means that the site is not viably connected to any of these.
<i>Foreseen Impacts</i>	Onsite habitat The proposed development will result in the loss of modified grassland. This could result in a net loss in biodiversity at the site. Surrounding priority habitat No direct impacts to any notable habitats will occur as a result of the proposed development. However, due to the proximity of the site to deciduous woodland, indirect effects (e.g. pollution, dust, litter,) could occur during construction.
<i>Recommendations</i>	Onsite habitat 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). The proposed development will be required to demonstrate a minimum 10% Biodiversity Net Gain through use of the Defra Statutory Metric. A BNG Assessment will therefore be required to inform the planning application. Surrounding priority habitat

	Best practice measures to minimise the possibility of pollution affecting the nearby deciduous woodland must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this.
Locality and Designated Sites	
<i>Summary of Survey Findings</i>	Onsite designation The site is not subject to any designations. Surrounding designations There are no designations within 2km of the site. The site is within the impact zone for Groby Pool and Wood site of special scientific interest (SSSI). The site comprises a complex of habitats and includes fine examples of alder wood, dry and wet grassland, marsh, reedswamp and open water. The plant communities are representative of those developed on neutral or slightly acid soils in the North Midlands.
<i>Foreseen Impacts</i>	The site lies within the impact risk zone for Groby Pool and Wood SSSI name. The proposed development type is not listed as a possible high risk for this designation.
<i>Recommendations</i>	None required
Invasive / Non-native species	
<i>Summary of Survey Findings</i>	There are no invasive or non-native species present onsite.
<i>Foreseen Impacts</i>	N/A
<i>Recommendations</i>	No further surveys are required.
Invertebrates	
<i>Summary of Survey Findings</i>	The habitats currently present on-site—comprising modified grassland, scattered brash piles, patches of woodland, and a small pond—are likely to offer suitable conditions for a range of common invertebrate species. These habitats

	provide a variety of microhabitats, including areas of bare ground, vegetation cover, decaying organic matter, and aquatic environments, which can support foraging, breeding, and overwintering activities. Modified grassland may support generalist invertebrates attracted to the ground vegetation and associated detritus. Brash piles offer damp, sheltered conditions that benefit decomposer species such as beetles, woodlice, and earthworms. Woodland areas add further structural and microclimatic diversity, with features like leaf litter, bark, and deadwood supporting a broader assemblage of invertebrates, particularly those associated with decaying organic matter (saproxylic species). The on-site pond introduces an aquatic element, potentially providing breeding habitat for aquatic invertebrates such as pond skaters, diving beetles, water boatmen, and various larvae including those of dragonflies and damselflies. Marginal vegetation around the pond may further enhance its ecological value by offering refuge and foraging habitat for both aquatic and semi-aquatic species. As such, the site is likely to support a typical assemblage of common invertebrate species but is considered to be of limited value in terms of specialist invertebrate conservation.
<i>Foreseen Impacts</i>	The removal of modified grassland may reduce the habitat for local invertebrate assemblages, however owing to the small size of the removal, this is unlikely to be detrimental to any local populations.
<i>Recommendations</i>	No further surveys. Suggested biodiversity enhancements The site could be further enhanced via the provision of native wildflowers or wildflower turf, which would provide foraging opportunities for invertebrates.
Bats	
<i>Summary of Survey Findings</i>	EPSL applications

	There is one EPSL application ~1830m south of the site for the destruction of brown long eared and common pipistrelle resting place. Foraging and commuting habitat The site has optimal habitat for foraging and commuting habitat within the grassland, and edge of the woodland. The site is well connected to further optimal habitat such as arable fields, woodlands and ponds. The site is also rural enough to be away from any artificial lighting, creating an optimal dark spot for foraging and commuting bats. Roosting habitat No suitable habitat for roosting bats was identified within the site. The trees present were assessed for features commonly associated with bat roosting potential—such as cavities, fissures, peeling bark, deadwood, and dense ivy cover—but none were found to possess such features. As a result, all trees on-site are considered to have negligible potential to support roosting bats. Additionally, there are no buildings, built structures, or other features (e.g. mature hedgerows or veteran trees) present that might offer roosting opportunities. The site's overall structure and composition do not provide the conditions typically required by roosting bats, such as stable microclimates, sheltered voids, or elevated perching locations. Consequently, no further bat roost surveys are considered necessary at this stage, unless future development proposals involve significant changes to boundary trees or the introduction of artificial structures.
<i>Foreseen Impacts</i>	Foraging and commuting bats

	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. However, 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. Roosting bats The proposed development will not result in the removal of any trees, therefore there is no foreseen impact on roosting bats.
<i>Recommendations</i>	Foraging and commuting bats 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. Roosting bats In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.
Birds	
<i>Summary of Survey Findings</i>	No active bird nests were identified within the trees on-site at the time of survey; however, these features provide suitable nesting opportunities and resources for a variety of bird species. The structural diversity and presence of dense woody vegetation offer ample potential for nest building and shelter during the breeding season.
<i>Foreseen Impacts</i>	The proposed development could result in the disturbance and subsequent abandonment of active bird nests.

<i>Recommendations</i>	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.
Reptiles	
<i>Summary of Survey Findings</i>	EPSL applications There are no EPSL applications for rare reptiles within 2km of the site. Onsite habitat Habitats recorded onsite are assessed to provide foraging, commuting, basking and refuge opportunities for reptiles. The woodlands provide elevated value for reptiles as the habitat provides a suitable structure for refuge, whilst also providing foraging and commuting opportunities. However it is important to note that the site is dominated by managed grassland, bare ground and unsealed surface, all of which have limited value to reptiles. These habitats are suboptimal due to the absence of notable habitat structure and diversity, as well as the significant disturbances from the use of motorcross bikes and management of the grassland to the north. These landscape features and management significant limits the potential of the habitats for reptile foraging, commuting and refuge, however they do provide some basking opportunities. The site is surrounded by a dense assemblage of arable fields, with some scattered areas of woodland to the north and southwest of the site. Although limited the site does have connections to surrounding optimal habitats, therefore the presences of individual reptiles within the site cannot be discounted.
<i>Foreseen Impacts</i>	Modified grassland 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: • Rubble removal will be done carefully by hand to prevent the unintentional harming of reptiles • 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. The site could be enhanced for reptiles' post development with the inclusion of log piles and a compost heap.
Amphibians	
<i>Summary of Survey Findings</i>	EPSL applications 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. Onsite habitat

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). A review of aerial imagery and MAGIC has indicated that as well as the pond located within the owned boundary there are an addition seven ponds within 500m of the site. Pond 1 is located within the owned boundary of the site and has been assessed to be provide **poor** suitability to support great crested newts. The pond is ~3000sqm, and never dries out due to its connection to other water bodies. The connection to other water bodies, also provides the pond with a natural assemblage of fish. The pond is not shaded due to the lack of multi storey habitat surrounding it. The habitat around the pond is currently limited, with just modified grassland, however surrounding the pond there is a thin strip (under 0.5m) of longer grass that could provide terrestrial habitat for GCN.

HSI Index	HSI Score
1 – Location	1.00
2 – Pond Area	0.80
3 – Pond Drying	0.90
4 – Water Quality	0.33
5 – Shade	1.00
6 – Waterfowl	0.67
7 – Fish	0.01
8 – waterbody count in wider landscape within 500m with suitable terrestrial connectivity	0.70
9 – Terrestrial Habitat	0.33
10 – Macrophytes	0.30
TOTAL	0.40
CATEGORY	Poor

In additional to the pond within the owned boundary there are an additional seven ponds. These are located (P1) ~70m southeast (P2) ~110m southwest (P3) ~ 300m south (P4) ~350m southeast (P5) ~350m north (P6) ~370m south

	(P7) ~470m south. Ponds 1 and 4 are connected to the site through thin areas of hedgerows; these hedgerows could provide terrestrial commuting habitat for GCN to the site. However, both ponds have further optimal habitat in the form of woodland within proximity, which would reduce the likelihood of GCN transversing habitats to get to the site. Pond 5 is separate from the site by the M1 motorway, which is a significant barrier to GCN dispersal, due to the heavy traffic flow, eliminating connectivity to the site for great crested newts. The other ponds within 500m of the site are separated from the site by agricultural landscape, residential and commercial infrastructure. Such landscape features do not provide the structure required for GCN to safely avoid predation, further the management of the landscape represents a substantial risk to commuting and foraging GCN. The habitats onsite provide limited suitable terrestrial habitat for amphibians, such as managed grassland, bare ground and unsealed surface. However, the woodland may offer refuge for GCN; the woodland will be retained and enhanced post development.
<i>Foreseen Impacts</i>	Pond 1 will be retained in the development, areas of grassland will be removed in the development.
<i>Recommendations</i>	Owing to the negative result of the eDNA testing and green risk score within the rapid risk assessment, GCN licencing is considered to be disproportionate. A precautionary working method will be implemented 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. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use.

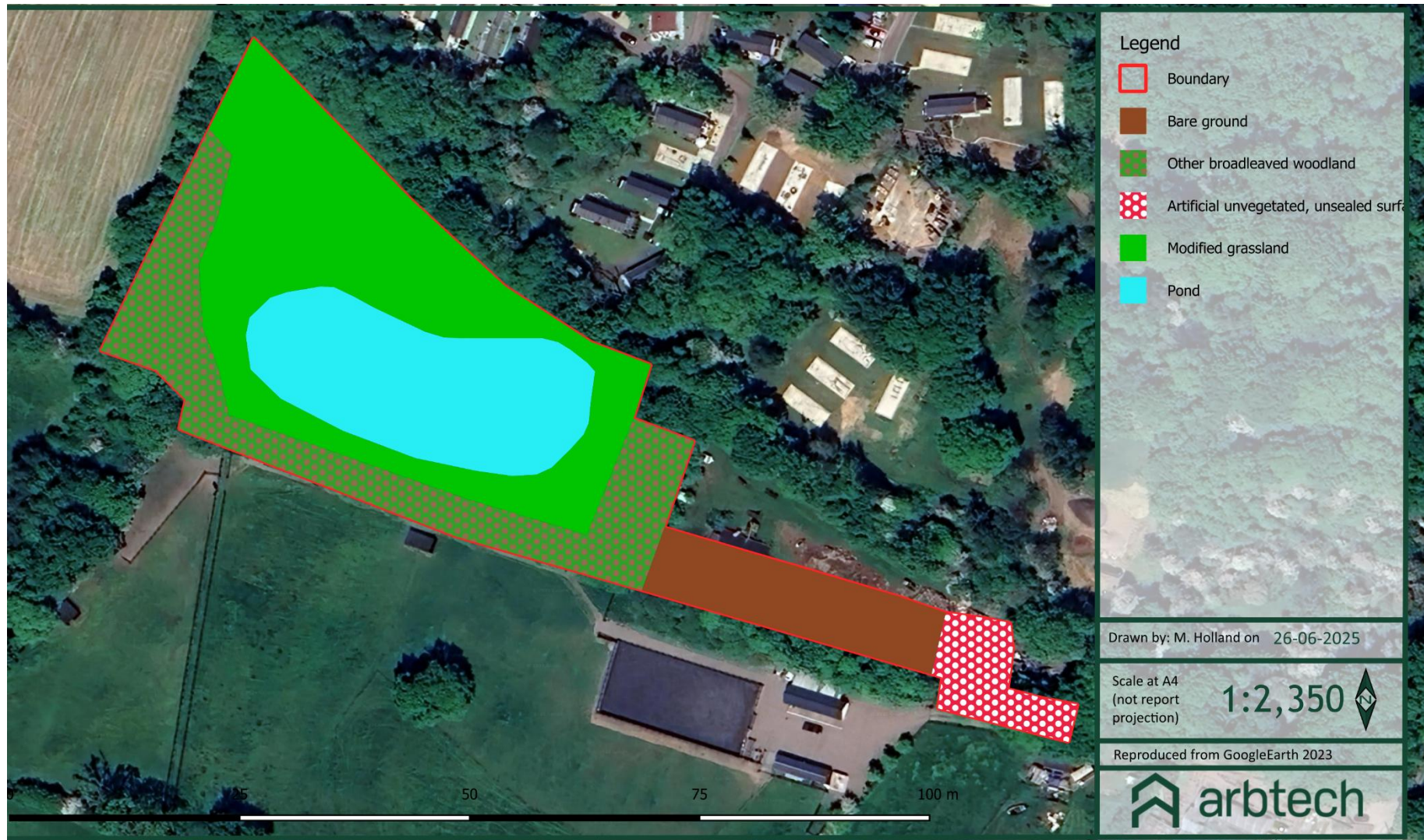
	- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. - If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand 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.
Badger	
<i>Summary of Survey Findings</i>	No badger setts were noted on site or within a 30m radius of the site. The site is considered unsuitable for badgers given the lack of suitable sett excavation areas/ground and constant disturbance. Further, there is limited suitable badger foraging habitat on site given the lack of fruiting trees/scrub. The site is however surrounded by optimal habitat for foraging and commuting badgers in the form of agricultural fields, and woodlands.
<i>Foreseen Impacts</i>	No works will be undertaken within 30m of a badger sett. Modified grassland 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: - 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 habitats which badgers could use. South and west boundaries.

	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 within 30m, works must cease and advice must be sought from a suitably qualified ecologist.
Riparian animals	
<i>Summary of Survey Findings</i>	EPSL application There are no EPSL applications within 2km of the site. Onsite habitat There are no watercourses on or connected to the site.
<i>Foreseen Impacts</i>	No impacts are anticipated on riparian animals as a result of the proposed development.
<i>Recommendations</i>	N/A
Hazel dormouse	
<i>Summary of Survey Findings</i>	EPSL applications A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. Habitat suitability Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation. Furthermore, for isolated habitats in the UK, research indicates that dormice require 20ha of woodland habitat to support a viable population (Bright et al. 1994). The woodlands surrounding the site are therefore suboptimal for dormice populations due to the significant fragmentation. The agricultural land, and residential development will significantly reduce the suitability of the woodland onsite for foraging, commuting and

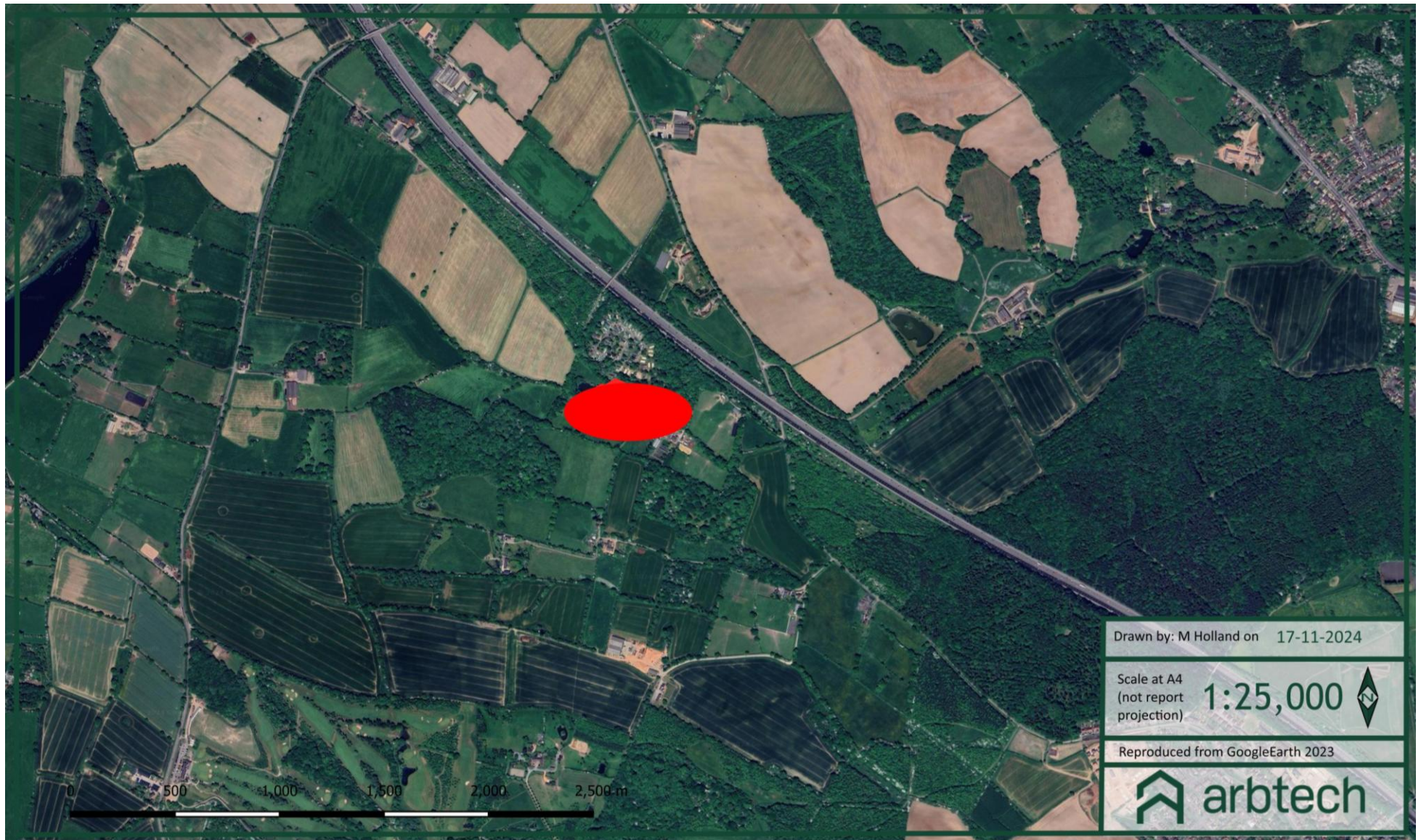
	nest building opportunities. Further, the woodland located onsite does not provide a three-dimensional habitat structure that is required for dormice inhabitation. As such, it is considered likely that hazel dormice are absent from site.
<i>Foreseen Impacts</i>	No impacts are anticipated on hazel dormice as a result of the proposed development as the bulk of the vegetation will be retained.
<i>Recommendations</i>	None.
Hedgehog	
<i>Summary of Survey Findings</i>	The rubble piles, woodland and grassland onsite provides foraging and commuting opportunities for hedgehogs, with woodland habitat nearby.
<i>Foreseen Impacts</i>	Modified grassland 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>	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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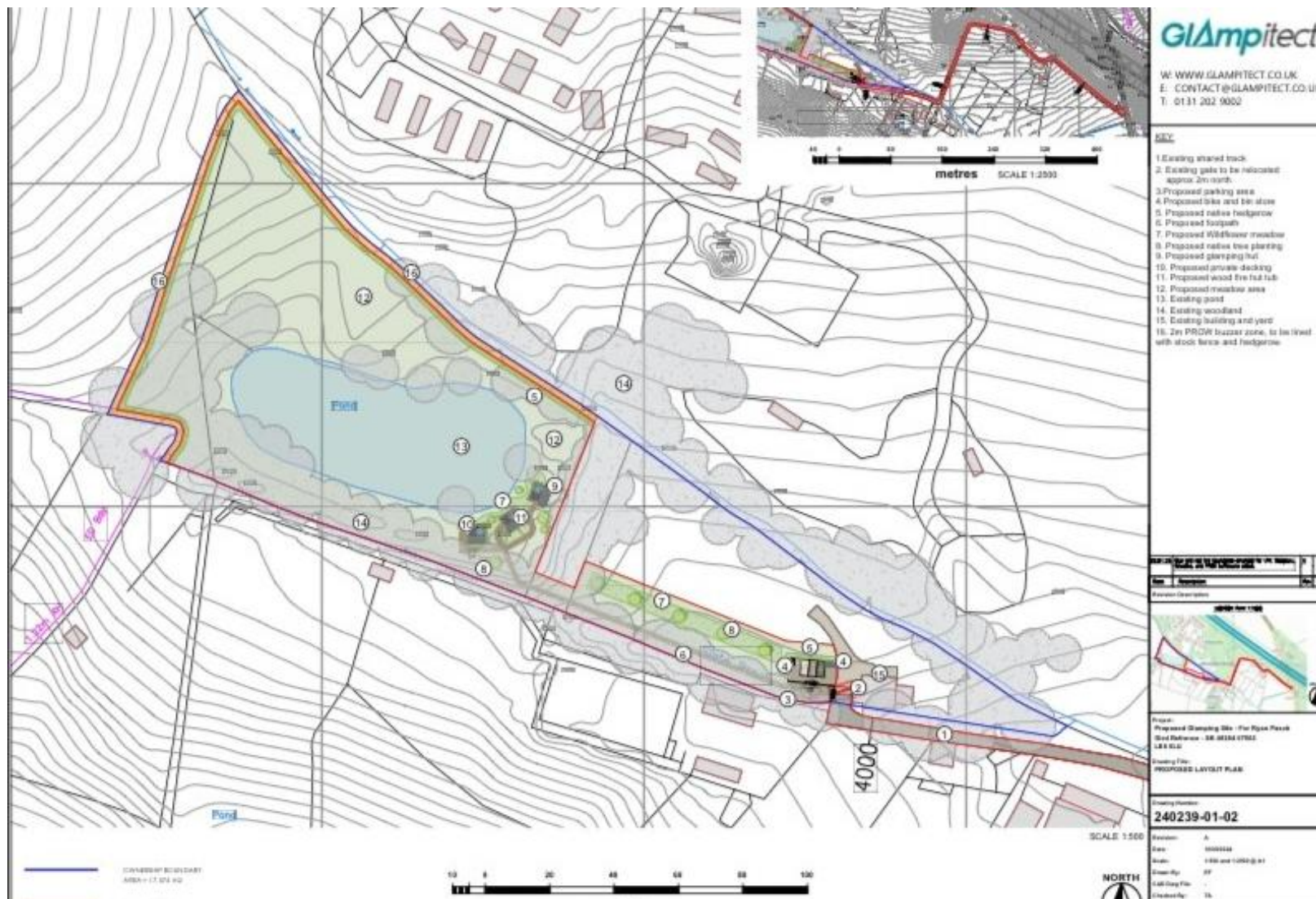
Appendix 1: Survey/Habitat map



Appendix 2: Location map



Appendix 3: Proposed plan



Appendix 4: Photos



Figure 1: the northern area of the site showing the modified grassland and woodland edge.



Figure 2: the woodland from the north.



Figure 3: area of bare ground that has previously been used for motorcross.



Figure 4: the area of unsealed surface, located to the south of the site.



Figure 5: the are of bare ground from the south of the site.



Figure 6: the pond located within the owned boundary.



Figure 7: Area of woodland from the west.

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