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Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Ysgol I.D. Hooson, Heol Caradoc, Rhosllanerchrugog, Wrexham LL14 2DS

Client:

Wrexham County Borough Council (Education)

Survey date:

6th December 2024

Project:

This report is prepared to inform a planning application with the Wrexham County Borough Council. The proposal is described as:

The proposed extension and refurbishment of the existing Ysgol I.D. Hooson building with external hard play relocation and possible car park expansion.

PEA survey methodology and legislation can be found in the Arbtech Supplement: **PEA Methodology and Legislation - 2024.**

PRA survey methodology and legislation can be found in the Arbtech Supplement: **PRA Methodology and Legislation - 2024.**

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion.

Site Location and Context
The survey site is centred on National Grid Reference SJ 28761 46057 and has an area of approximately 2.8ha. The site comprises a primary school, with associated recreational field, scattered trees and onsite concrete car park. It is situated within the town of Rhosllanerchrugog in Wrexham. There are scattered trees within the site and extending into the local garden landscape. Aerial imagery shows the local landscape to be residential to the south, north and east of the site, with agricultural fields to the west. Water bodies can be found nearby, such as Stryt Las Park (lake) located ~1.09km to the east. Such features likely enhance the area for a variety of species, including bats, amphibians and reptiles.
Survey Details
The site survey was undertaken by Kayleigh Davies BSc, MSc, Accredited on Natural Resources Wales Bat Licence (details on request) and holder of Natural Resources Wales Level 1 Great Crested Newt License (details on request).

Date of survey	**Temperature (°C)**	**Humidity (%)**	**Cloud Cover (%)**	**Wind (km/h)**	**Rain**
06/12/2024	9	87	100	9	Light rain

Executive Summary
Precautionary working methods recommended for all protected species. No further surveys required. Full report as follows.
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 PEA survey was completed outside of the optimal survey period (April to October) limiting the identification of ground flora species; however, an adequate judgement could be made from the vegetation visible. No plans are currently in place for the extension to the car park to the north of the site and therefore, an accurate impact assessment could not be made.

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). **Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).**	
Summary of Survey Findings **(***UKHab codes used)*	**On-site habitat descriptions** **u1b5** – Buildings There are several buildings onsite. B1 (school building), B2 and B3 (temporary outbuildings) are spoken about within the preliminary roost assessment section of the report. Other onsite buildings consist of scattered outbuildings throughout the site, such as small sheds, wooden outbuildings and other wooden structures. **u1b** – developed land sealed surface There is an onsite car park, roads, pedestrian pathways and children's play spaces on site that consist of cement hard surfaces. **g4, 32** – Modified grassland, scattered trees The playing field on site is subject to regular management, with a short grass length of ~10cm with no variation in grass blade length. The species present are common and there is a poor species density present. Species include Yorkshire fog (D), perennial rye (A), dandelion (F), creeping buttercup (O) and ribwort plantain (R). The playing field is in overall good condition with small sections of scattered bare ground due to regular use for recreational activities. Within the northern existing car park onsite there are sections of managed scattered modified grassland of similar regular management and species abundance. There are also introduced shrubs present within sections with species present including cinquefoils (D), cherry laurel (A), *viburnum sp*. (F), cotoneaster (O) and buddleia (R). There are scattered sections of bare ground amounting to ~10% of the modified grassland in this section due to the regular use for pedestrian walkways within this modified grassland. There are scattered trees within the western section of the playing field and the modified grassland sections of the car park, these trees are young trees with species present including hazel (D), sycamore (A), cherry (F), buddleia (R). These trees are in good condition with no signs of damage or disease and an average trunk diameter of ~15cm-~20cm. **g3c, 201, 823, 521, 81, 32, 33** – other neutral grassland, trees planted, children's play space, unmanaged, ruderals, scattered trees and lines of trees To the east of the southern playing field and the southernly most section there is a section of unmanaged grassland present. This section is utilised for nature education and has scattered trees, small outbuildings and children's playing equipment. There are scattered planted young saplings throughout this section. Species present include Yorkshire fog (D), orchard grass (A), canary grass (A), bramble (A), nettle (F), thistle (O), willow herb (O) and gorse (R). To the north of the of the site, there is a small triangular section of other neutral grassland. This section is also unmanaged with varying vegetation length. There is <20% of bare ground present due to groundwork present. Species include cocksfoot (D), Yorkshire fog (A), bitter dock (F), creeping buttercup (F), cow parsley (F), nettle (O), *geranium sp* (R) and St John's Wort (R). The grassland present is in overall poor condition.

	There are scattered trees throughout this section of other neutral grassland. There is ~30-40 trees present of differing age class. Species present include malus sp (D), willow (A), hawthorn (F), birch (F), sycamore (O) wych elm (R). These trees are overall in good condition with ages ranging from saplings and young trees to semi mature trees. Tree trunk diameter range from the young trees ~7.5cm to semi mature ~40cm. There are a high density of trees surrounding the fencing around the pond of the southeastern corner of the site. There are also lines of trees to the eastern boundary and the northwestern boundary of the grassland. **H2b –** non-native ornamental hedgerow There is a small nonnative ornamental boundary hedgerow to the north of the site, on the northeastern boundary of the site, consisting of California privet. The hedgerow sits at ~0.6m tall, ~0.8m wide and is regularly managed with limited evidence of damage. **h3d** – Bramble scrub There is scattered bramble scrub throughout the sections of other neutral grassland. There are dense sections of bramble scrub to the southern boundary of the site and within the eastern other neutral grassland. Species present include bramble (D), nettle, (A), willow herb (F), thistle (O) and gorse (R). **r1g** – Other standing water (ponds) There is a small pond located to the southeastern corner of the site. The pond is separated to the remainder of the site via metal fencing. The pond was not fully accessible during the survey so was assessed from afar. The pond is stagnant, with a covering of duckweed. The banks are largely unvegetated with exposed pond lining. The banks are relatively shallow with an incline of ~40°. Pond is discussed further within the great crested newt section of the report. **Local notable habitats** The following are summarised records returned from the local environmental records centre (COFNOD) for habitats within 2km of the site: • Ancient semi natural woodland - ~ 0.83km to the southeast. • Lowland dry acid grassland - ~ 0.96km to the southwest. • Lowland fens and reedbeds - ~ 1.10 km to the south. • Lowland meadows - ~ 0.39 to the southeast. • Open mosaic habitats of previously developed land - ~ 1.92km to the east. • Purple moor grass and rush pastures - ~ 1.15km to the east. • Traditional orchard - ~ 1.54km to the southeast.
Foreseen Impacts	**On-site habitats** The habitats on-site are widespread and not notable; however the proposed development will result in the loss of a small section of modified grassland and other neutral grassland. This is likely to have minimal impact on biodiversity considering the small area of commonplace habitat being lost.

<table>
<tr><td></td><td>Notable habitats
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 lowland meadows (0.39km southeast), indirect effects (e.g. pollution, dust, litter, surface run off, etc.) could occur during construction.</td></tr>
<tr><td>Recommendations</td><td>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).

To compensate for the proposed habitat losses at the site, the following habitat creation measures should be incorporated:
• Native wildflower planting
• Native hedgerow or native tree planting on site

Green Infrastructure Assessment
Planning Policy Wales (2024) requires all developments within Wales to conduct a Green Infrastructure Assessment to deliver Net Biodiversity Benefit and maintain biodiversity during development. Therefore, the planning application must be accompanied by a Green Infrastructure Statement to detail how the site is maintaining biodiversity and include recommendations to further enhance the site biodiversity.

Notable habitats
Best practice measures to minimise the possibility of pollution affecting the nearby lowland meadows and further surrounding notable habitats.</td></tr>
<tr><td colspan="2">Locality and Designated Sites</td></tr>
<tr><td>Summary of Survey Findings</td><td>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:

<table>
<tr><th>Designated site name and Ref</th><th>Reason for notification</th><th>Size (ha)</th><th>Distance and direction from site (km)</th></tr>
<tr><td>Stryt Las a’r Hafod Site of Special Scientific Interest (SSSI)</td><td>The site is of special interest for its amphibians. Of particular interest is the population of the great crested newt Triturus cristatus.</td><td>69.40</td><td>1.03 east.</td></tr>
</table>
</td></tr>
</table>

			The water bodies at Stryt Las and Hafod support one of the largest known breeding populations of the great crested newt in Great Britain. Torch night counts undertaken during the spring have revealed over 250 adult and sub-adult animals on several occasions. *They also support significant populations of the commoner amphibian species notably smooth newt Triturus vulgaris, palmate newt T. helveticus, common frog Rana temporaria, and common toad Bufo bufo.* *Surrounding areas of land support a mosaic of scrub and planted trees, grassland, and tall ruderal vegetation. These form important foraging and over wintering areas for adult and juvenile amphibians.*			
		Johnstown Newt Sites Special Area of Conversation (SAC) Ref: UK0030173	*Annex II species* • *1166 Great crested newt Triturus cristatus*	69.29	1.03 east.	
		The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB)	*Limestone grassland is an exceptionally diverse habitat supporting many wildflowers such as cowslip and rockrose, some rare and uncommon such as autumn gentian and orchids such as early*	39,000	1.30 east.	

		Ref:	*purple. These in their turn support a variety of invertebrates including many butterflies and moths such as the common blue butterfly and the red-spotted burnet moth.* *The large expanses of heather moorlands that carpet the AONB are of international importance. These moorlands are special places for upland birds such as stonechat, tree pipit, hen harrier and merlin which visit the moors during the spring and summer months to breed. The moorlands of the Clwydian Range and Dee Valley are also a strong hold for the black grouse, one of the UK's rarest birds.* *Many of the woodlands of the Clwydian range and Dee Valley are semi natural ancient woodlands. Because they have remained relatively undisturbed for so long, they support a rich diversity of flora and fauna.*			

Non-statutory designated sites

Non-statutory designated sites within 2km of the site returned from COFNOD are summarised below:

- Yew Tree Dingle (wildlife site) - ~ 0.83km to the west.
- Gardden Fort Wood (wildlife site) - ~ 1.36km to the southeast.
- Gardeen Wood/Rocky Wood (wildlife site) - ~ 1.36km to the southeast.
- Plas Bennion (wildlife site) - ~ 1.91km to the south.
- Stryt Las Park (country park) - ~ 1.04km to the east.

	• Northeast Wales (important invertebrate area) - ~ 1.90km to the east. • Aberderfryn (wild ground reserve) - ~ 1.92km to the east. • Brandie Brook (wild ground reserve) - ~ 1.14km to the east. • Morgan Cermanics (wild ground reserve) - ~ 1.65km to the east. • Stryt Las (wild ground reserve) - ~ 1.03km to the east. • ICA 4 Ruabon/Rhiwabon (important curlew area) - ~ 1.10 km to the west.
Foreseen Impacts	**On-site designations** No impacts foreseen. **Statutory and non-statutory designated sites** No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the urban location of the site with surrounding physical barriers. proposed development could result in increased recreational pressure to nearby areas.
Recommendations	**On-site designations** None required. **Statutory and non-statutory designated sites** None required.
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	**Local records** The following are biological record data returned by COFNOD in a 2km radius of the site: • 2 records of cinnabar located ~ 0.40km to the south.

<table>
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- 1 record of alder leaf beetle ~ 0.86km to the northeast.
- 2 records of common darter ~ 1.09km to the east.
- 6 records of common darter ~ 1.99km to the east.
- 9 records of harlequin ladybird ~ 0.81km to the southwest.

The habitats present on-site, including modified grassland and trees, 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.
</td></tr>
<tr><td>Foreseen Impacts</td><td>None foreseen as the removal of modified grassland and other neutral grassland is likely inconsequential for invertebrate populations.</td></tr>
<tr><td>Recommendations</td><td>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.</td></tr>
<tr><td colspan="2">Bats</td></tr>
<tr><td>Summary of Survey Findings</td><td>
Local records
The following are biological record data returned by COFNOD in a 2km radius of the site:

<table>
<tr><th>Number of records</th><th>Bat species</th><th>Distance from site (km)</th><th>Type of record</th></tr>
<tr><td>6</td><td>Bat spp.</td><td>~ 1.13 east</td><td>Sighting</td></tr>
<tr><td>7</td><td>Brown long-eared bat</td><td>~ 1.12 southeast</td><td>Sighting</td></tr>
<tr><td>23</td><td>Common pipistrelle</td><td>~ 0.24 southeast</td><td>Sighting</td></tr>
<tr><td>9</td><td>Noctule</td><td>~ 1.03 northeast</td><td>Sighting</td></tr>
<tr><td>2</td><td>Pipistrelle spp.</td><td>~ 1.39 east</td><td>Sighting</td></tr>
<tr><td>18</td><td>Soprano pipistrelle</td><td>~ 0.24 east</td><td>Sighting</td></tr>
<tr><td>6</td><td>Whiskered/Brandt’s</td><td>~ 1.92 north</td><td>Sighting</td></tr>
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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 modified grassland, scattered scrub, and onsite pond. 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 onsite lines of trees adding to the continuity of vegetated linear
</td></tr>
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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.

Roosting habitat - buildings

Buildings and trees to be impacted by the proposed development are assessed for their suitability to support roosting bats below. No evidence of roosting bats was identified on or within B1 or any of the surveyed trees on-site.

Building B1 – roosting bats

B1 is a single storey, flat roof building which is utilised as a school. The roof consists of metal corrugated sheeting, with a mix of plastic and metal eaves. The walls are constructed of cinderblock and render, with sections of brick. The building is overall in good condition. The roof has differing heights with flat and tilted roof sections.

- The roof is well sealed with no crevices suitable for crevice dwelling bats or any ingress points that would allow internal access for bats. Furthermore the construction offers limited thermoregulation properties for roosting bats.
- The eaves are all in good condition with no cracks or crevices observed and all observed to be sealed offering no ingress points for bats.
- The walls are also in good condition with no signs of damage or crevices suitable for crevice dwelling bats.

Internal – B1

There is a roof void between suspended ceiling tiles and the roof structure. This space is ~0.3m in height and cluttered with metal piping and wires. No insulation was observed. No sections of sunlight observed entering the space. The void has exposed metal roofing and metal beams. The construction of the void provides negligible habitat for void dwelling bats due to the metal not offering heat regulating opportunities for bats. Furthermore, the piping, beams and wiring create a cluttered space within the void that limits flight room for void dwelling bats.

B1 – suitability assessment

B1 is **negligible** for crevice and void dwelling roosting bats due to the lack of suitable roosting features and lack of ingress points for bats.

B2&B3 – roosting

B2 and B3 are outbuildings on site that are utilised as eternal classrooms. The buildings are flat roof, single storey outbuildings. Both buildings have bitumen felt roof, with wooden walls and metal sheeting. The eaves are wooden on both buildings.

- The walls are in good condition with no cracks or crevices for roosting bats.
- The eaves are in good condition with no cracks or points of ingress.
- The roof is well sealed with the felt lying flush to the roof and the eaves. No roosting features noted.

The interior of the outbuildings could not be surveyed during the visit; however, no loft is present within these outbuildings and the ceilings from external view appear vaulted.

	B2&B3 – suitability assessment Both outbuildings are **negligible** for roosting bats. **Roosting habitat - trees** No bat roosting features were identified on any of the trees surveyed. All trees surveyed are **negligible** for roosting bats.
Foreseen Impacts	**Roosting habitat [Buildings]** Bats are very unlikely to be roosting within this building and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development. **Roosting habitat [Trees]** No features were identified on any of these trees and as such there are unlikely to be any impact to bats as a result of their felling. **Foraging and commuting habitat** The proposed development will result in the loss of small areas of scrub and modified grassland but given their low value and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats. **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.
Recommendations	**Roosting habitat [Buildings]** 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. **Roosting habitat [Trees]** 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. **Foraging and commuting habitat** No further surveys are required. **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 two bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be incorporated into the fabric of the extension. 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 brands. 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	
Summary of Survey Findings	**Local records** The following are biological record data returned from COFNOD in a 2km radius of the site (summarised as ~490 records are present): • 13x song thrush, closest record ~0.6km south • 13 x bullfinches, closest record~0.6km southeast • 4x barn owl, closest record ~ 0.51km north • 1x black redstart ~ 0.86km northeast • 47x black-headed gull, closest record ~ 1.92km northwest • 1x brambling ~ 0.86km northeast • 44x bullfinch, closest ~ 0.62km northeast • 104x Canada goose, closest ~ 0.93km northeast Other bird records present include fieldfare, goldcrest, dunnock, great crested grebe, green woodpecker, marsh tit, willow warbler, redstart, black redstart etc. **Buildings** No evidence of nesting birds was identified on or within B1. B1 is deemed to provide negligible habitat value for nesting birds due to a lack of suitable nesting sites or access points. **Trees and vegetation** No bird nests were identified within the vegetation on-site; however they all offer nesting opportunities and nest-building resources for birds. No habitat for schedule 1 birds was observed. **Barn owls** The site does not appear to provide any suitable nesting sites for barn owls. **Overwintering birds**

	Due to the small size of the site and the extent and type of the habitats recorded, the site not considered suitable to support a significant assemblage of protected and/or notable birds.
Foreseen Impacts	**Buildings/trees** The proposed development could result in the disturbance and subsequent abandonment of active bird nests. **Barn owls** None foreseen. **Overwintering birds** None foreseen.
Recommendations	**Buildings/trees** Any vegetation 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. **Overwintering birds** None required. **Suggested biodiversity enhancements** The installation of a minimum of two bird boxes on mature trees around the site boundaries or on retained buildings will provide additional nesting habitat for birds e.g. 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	
Summary of Survey Findings	**Local records** The following are biological record data returned by COFNOD in a 2km radius of the site: • 2x common lizard ~ 1.35km southwest. • 6x grass snake, closest ~ 1.00km southwest. • 6x slow worm, closest ~ 1.38km southwest. **Habitat suitability** Habitats recorded on site are assessed to provide suitable foraging, commuting, and refuge opportunities for reptiles in the form of scattered scrub and modified grassland with longer grass lengths to the south and the east of the site. the majority of the site consists of modified grassland, which is managed to a short grass length, and due to this reptile will spend short periods of time within this habitat. Suitable areas of habitat on site are limited to the southern and eastern aspect of the site which offer suboptimal foraging habitat. **Surrounding Habitat** The site is surrounding immediately with unmanaged sections of scrub and grassland on all boundaries of the site, and the wider landscape consists of residential homes and gardens to the south and east. The site is connected to arable fields to the west and north of the site which offer reptile foraging habitat.
Foreseen Impacts	Small sections of modified grassland and small sections of other neutral 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.
Recommendations	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.

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- In the unlikely event that a reptile is identified, works must cease and advise 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.
</td></tr>
<tr><td colspan="2">Amphibians</td></tr>
<tr><td>Summary of Survey Findings</td><td>

Survey data and biological records data

The following are biological record data returned by COFNOD in a 2km of the site:

- ~452 records of great crested newts (including historical records) with the nearest record ~0.47km to the northeast.
- 21 x common frog, closest ~ 1.07km east.
- 14 x common toad, closest ~ 1.19 east.
- 21 x palmate newt, closest ~ 1.08km east.
- 70 x smooth newt, closest ~ 1.08km east.

Habitat suitability
There is one pond present on site (P1). Pond P1 is a small pond located to the southeast corner of the site. The pond measures approximately 9.5m x 5.5m and subsequently covers an approximate area of 49m^2. The banks are vertical and largely unvegetated, with fabric lining exposed on the banks. The pond was not fully accessible due to it being fenced off; therefore, it is unknown if there is fish within the pond. No waterfowl were viewed using the pond during the survey. The pond is further surrounded by grassland and small sections of thin bramble scrub. As a result of the HSI, P1 has been assessed to provide **poor** suitability to support great crested newts.

The scores for each HSI parameter can be viewed in the table below:

HSI Index	HSI Index Parameter	HSI Score
1 – Location	Zone A	1.0
2 – Pond Area	<50m^2	0.05
3 – Pond Drying	Never dries	0.09
4 – Water Quality	Moderate	0.67
5 – Shade	0-60%	1.0
6 – Waterfowl	Absent	1.0
7 – Fish	Possible	0.7
8 – waterbody count in wider landscape within 500m with suitable terrestrial connectivity	0	0.45
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<tr><td></td><td>
<table>
<tr><td>9 – Terrestrial Habitat</td><td>Moderate</td><td>1.0</td></tr>
<tr><td>10 – Macrophytes</td><td><10%</td><td>0.8</td></tr>
<tr><td>TOTAL</td><td>-</td><td>0.4</td></tr>
<tr><td>CATEGORY</td><td>-</td><td>Poor</td></tr>
</table>

A review of the Magic.gov.uk database and aerial imagery indicates that there are no further ponds within 500m of the site boundary. The next closest pond to site is ~545m to the north of the site. The pond is separated from site via residential builds, associated gardens and main roads and therefore has limited connectivity to the onsite pond. These landscape features combined are assessed to represent a significant barrier to dispersal limiting access from these ponds to the site for great crested newts.

A pond map showing approximate pond locations is provided in Appendix 3.</td></tr>
<tr><td>Foreseen Impacts</td><td>Given the lack of suitably connected breeding ponds within 500m of the site, and the habitats impacted being small sections of modified grassland, other neutral grassland and hardstanding it is unlikely the proposed development will impact on great crested newts. However, there is a risk of commuting common amphibians within the vicinity of the works that may be harmed by proposed works if not mitigated for.</td></tr>
<tr><td>Recommendations</td><td>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 advise 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</td></tr>
</table>

Badger	
Summary of Survey Findings	**Local records** The following are biological record data retuned by COFNOD in a 2km radius of the site: [redacted] [redacted]: Further, no evidence of foraging badgers was noted within the development area. However, the site was considered suitable for badger sett excavation and foraging habitat.
Foreseen Impacts	No works will be undertaken within 30m of a badger sett. Other neutral grassland and 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.
Recommendations	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 advise 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	
Summary of Survey Findings	The following are biological record data returned by COFNOD in a 2km radius of the site: • 2 x otter, including sighting and prints. The closest visual sighting is ~ 0.62km S and the second sighting including prints is located ~ 1.38km SW.
Foreseen Impacts	No impacts are anticipated on riparian animals as a result of the proposed development.

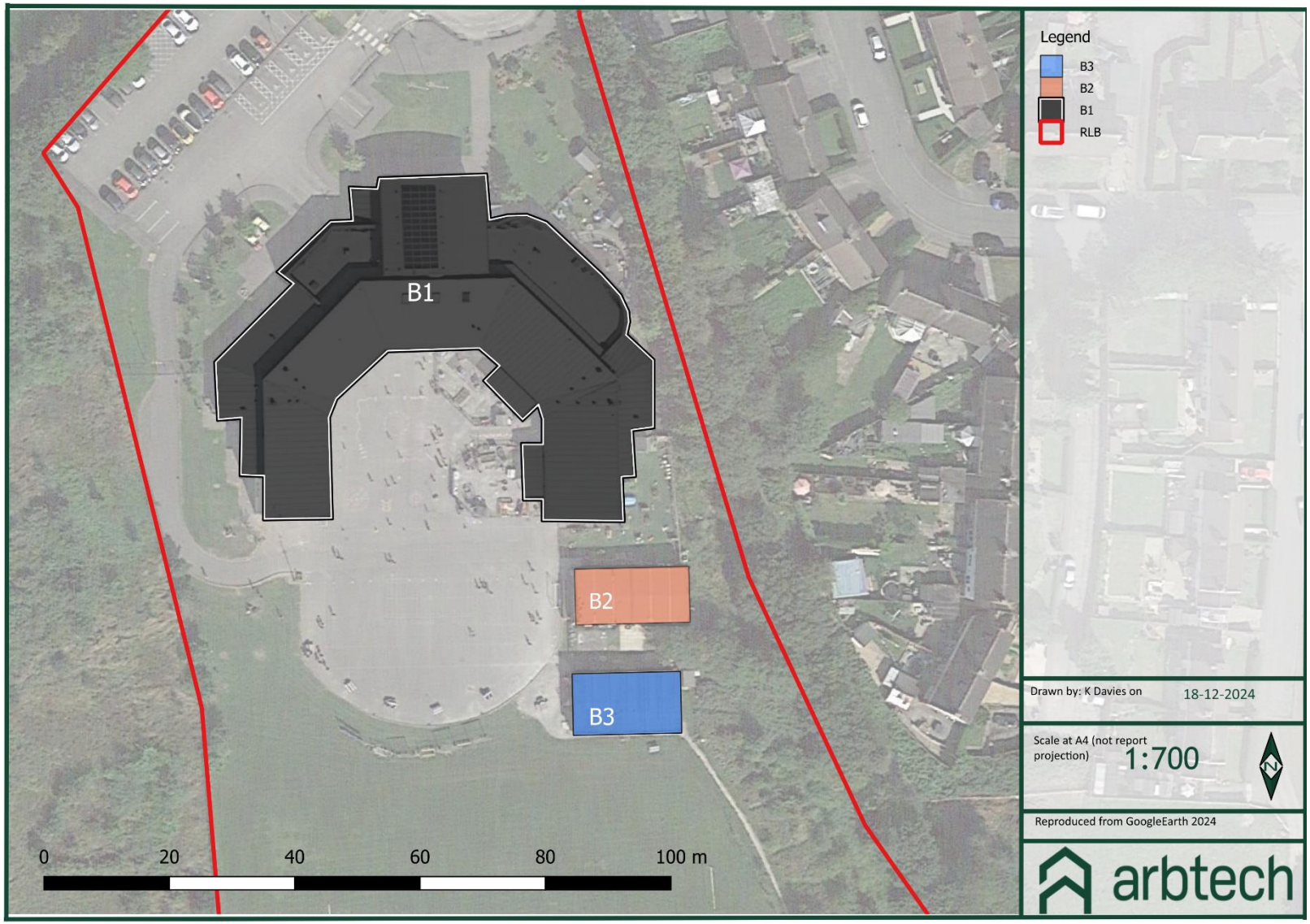
Recommendations	None required.
Hazel dormouse	
Summary of Survey Findings	**Local records** No records for hazel dormice within 2km of the site. **Habitat suitability** The site lies outside of the know current range for hazel dormice and there are no suitable habitats within the development area. As such it is considered likely that hazel dormice are absent from site.
Foreseen Impacts	No impacts are anticipated on hazel dormice as a result of the proposed development.
Recommendations	None foreseen.
Other e.g. hedgehog	
Summary of Survey Findings	The following are biological record data returned by COFNOD in a 2km radius of the site: • 30 x hedgehog records, closest ~ 0.39km south. The onsite habitats such as the thin sections of scrub, and longer grass coverings to the north and east of the site offer foraging habitat for hedgehogs.
Foreseen Impacts	Small sections of scrub and 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.
Recommendations	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.

Appendix 1a: PEA Survey



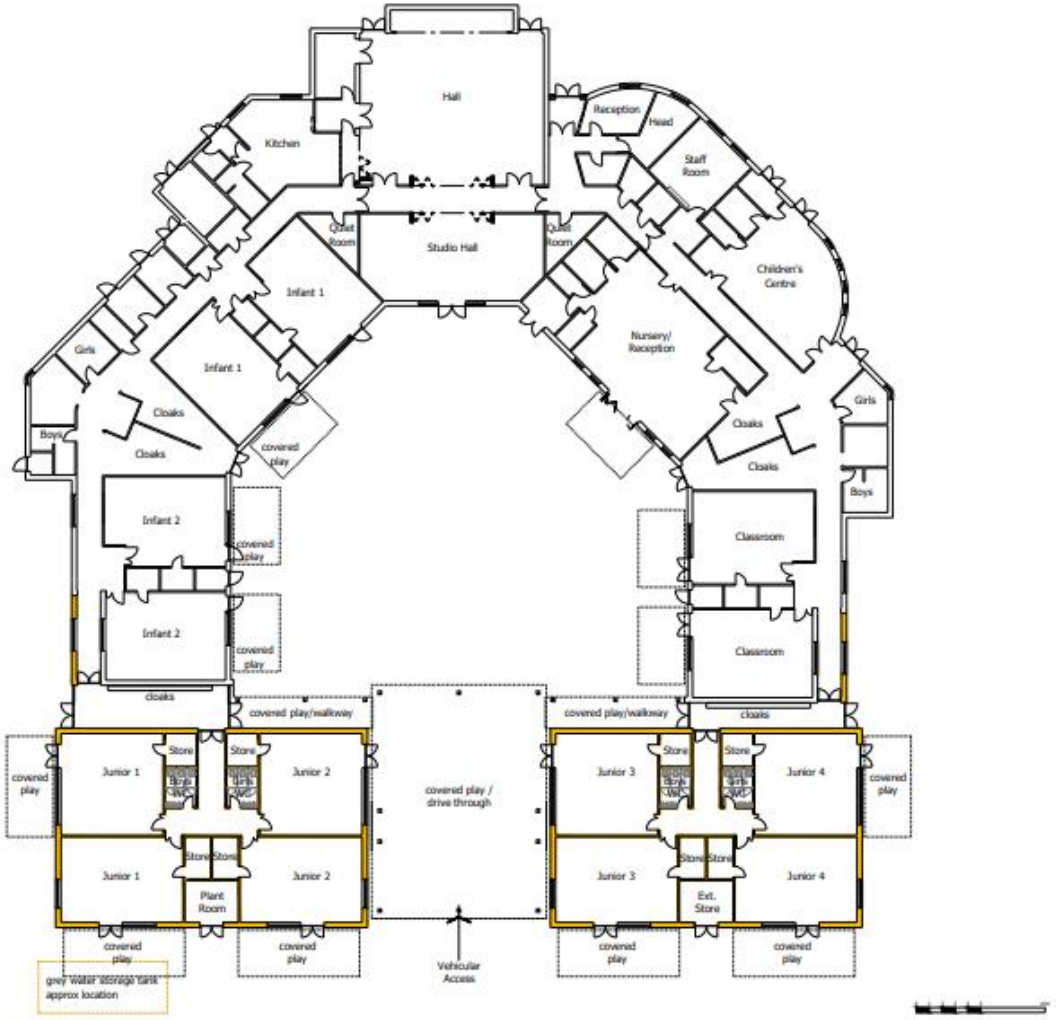
Appendix 1b PRA map



Appendix 2: Location map



Appendix 3: Proposed plan







Appendix 4: Photos

B1	
Photograph	**Description**
	**Overview of B1 and internal of B1.**

 	
B2	
Photograph	**Description**

 	**Overview of B2.**
B3	
Photograph	**Description**

 	**Overview of B3.**
Trees	
Photograph	**Description**

	**Example of scattered onsite trees.**
Modified Grassland	
Photograph	**Description**
	**Modified grassland of the onsite recreational field.**
Other neutral grassland	
Photograph	**Description**

	**Example of the other neutral grass to the south of the site.**
Pond	
Photograph	**Description**
	**The onsite pond.**
Developed Land Sealed	
Photograph	**Description**

	**Overview of the developed land sealed surface.**
Nonnative hedgerow	
Photograph	**Description**
	**The nonnative hedgerow to the north of the site.**

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