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Phase 1 Habitat Survey

Summary of Recommendations

If all protected species or their habitats are absent from the site then no further survey effort needs to be performed. Otherwise, a Phase 1 Habitat Survey in which protected species or their habitats are present is not normally considered sufficient.

Taking into consideration the desk study and site survey findings, this report concludes that it is not possible to adequately manage or exclude the risk of harm to protected species or habitats without the need for further survey effort.

Therefore, in order to provide adequate support for this planning application, the following protected species require further surveys/mitigation:

- Amphibians
- Bats
- Reptiles

A full specification for these surveys that are appropriate to the scale and scope of the proposed development can be found in the 'Conclusions' and 'Recommendations' sections of this report.

The Company and Contact Information

Established in 2005, Arbtech Consulting Limited provides arboricultural and ecological consultancy services in respect to planning and development, throughout the UK.

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The Surveyor

The surveyor and principal author of this report is Craig Williams BSc MSc GradIEM.

Protected Species Licenses

Bats

England: CLS02760.

Great Crested Newts

England: CLS02760.

Barn Owl Nest Visiting

England: 2014/SCI/0600

The Client

The client is St Helen's School.

The Site of Proposed Development

The client has ordered the survey for the ~8.3 ha site of 'St Helen's School, Eastbury Road Northwood, London HA6 3AS'. It is planned to build a new school building on an area of amenity grass, and renovate others, including the roof repairs of one.

The Survey Brief

The client commissioned Arbtech to undertake a Phase 1 Habitat Survey; referring to a method of ecological assessment outlined in the Joint Nature Conservation Committee ("JNCC") Handbook for Phase 1 Habitat Survey a technique for environmental audit (2010).

These guidelines state that the aim of the Phase 1 Survey is to observe, map and catalogue “*the potential value of the habitat.*” Since its publication the ecological consultancy industry has adapted the survey to make recommendations for further survey work as appropriate.

Controls

This survey provides a ‘snap-shot’ of the potential habitat and wildlife value of the sites at the time of survey only and may require further survey effort to provide robust, scientifically valid evidence of species absence.

Data Searches

Arbtech advises all clients that the incorporation of third party biological records and data (“BRD”) into the desk study element of our survey is very important. We further advise that depending upon the type of report, BRD is frequently required to comply with the NPFF, BS:42020 and CIEEM’s reporting Standards. If BRD is not referred to in the 'Local Environment' section of this report, it is because the customer has not authorised Arbtech to purchase BRD.

Dates of the Survey

20th and 21st June 2014.

Seasonality

This survey can be conducted at any time of year.

Informative

Table 1: Summary of Pertinent Legislation and Planning Policy Relevant to the Protection of Bats in the UK

Location of Site	Transposing EC Habitats Directive	Other Relevant Legislation	Planning Policy
England	Conservation of Habitats and Species Regulations 2010.	Wildlife and Countryside Act 1981 as amended. Countrywide and Rights of Way Act 2000. Natural Environment and Rural Communities Act 2006.	National Planning Policy Framework (“NPPF”).
Wales	Conservation of Habitats and Species Regulations 2010.	Wildlife and Countryside Act 1981 as amended. Countrywide and Rights of Way Act 2000. Natural Environment and Rural Communities Act 2006.	Technical Advice Note (“TAN”) 5.
Scotland	Conservation (Natural Habitat & c.) Regulations 1994 as amended.	Wildlife and Countryside Act 1981 as amended. The Nature conservation (Scotland) Act 2004.	National Planning Policy Guidance (“NPPG”) 14 and Planning Advice Note (“PAN”) 60.

A summary of legislation relevant to individual species can be found at Appendix IV.

The Survey Methodology

In order to fully assess the potential value of habitats at the site, the surveyor has observed widely accepted national standards set out in the JNCC (2010) publication Handbook for Phase 1 Habitat Survey: a technique for environmental audit.

The survey includes for a mapping exercise (found at Appendix I), in addition to a full species list and target notes (found at Appendix II.)

Inspections make use of binoculars and cameras where appropriate.

The survey is performed during daylight hours and provides an opportunity to exclude the need for further survey work, if the following species and features suitable for use by the following species can be confirmed absent from the site of proposed development:

1. Amphibians.
2. Bats.
3. Birds.
4. Reptiles.
5. Terrestrial mammals e.g. badger, dormouse and water vole.

If evidence of recent activity and or features suitable for the species cannot be confirmed absent from the site of proposed development, this report will make recommendations for further survey work and or mitigation where this is consistent with national guidelines and considered appropriate by the surveyor in the context of the proposed development.

Species Potential

Table 2: Species potential defined by integrating national guidelines e.g. Hundt 2012

Confirmed	Species are found to be present during the survey. Evidence of species' activity is found to be present during the survey.
High	Buildings, trees or other structures with features of particular significance for use by protected species e.g. nesting habitat, roosting opportunities, ponds. Habitat of high quality for foraging e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting species e.g. river and or stream valleys and hedgerows. Site is close to known locations of records for protected species.
Medium	Several potential habitat opportunities in buildings, trees or other structures. Habitat could be used for foraging e.g. trees, shrub, grassland or water. Site is connected with the wider landscape by linear features that could be used by commuting species e.g. lines of trees and scrub or linked back gardens.
Low	A small number of less significant habitat opportunities. Isolated habitat for foraging e.g. a lone tree or patch of scrub. An isolated site not connected by prominent linear landscape features.
Negligible	No suitable habitats observed.

Table 2 (above) presents a scale continuum against which the significance of habitat value and opportunities for protected species at the site can be graded. By referring to this continuum and using their expert judgment, surveyors classify features such as habitats, buildings etc. as representing low, medium, high value or confirmed presence.

Survey Results

Table 3: Desk study results, habitats and species recorded on site

Desk Study Records	The survey preparation has been informed by the use of a desk study utilising: - aerial images from Google Earth, MAGIC and other freely available information e.g. Natural England’s nature on the map website, and OS Opendata 2010 using grid reference (TQ09) TQ094915 and postcode HA6 3AS. No other dataset has been consulted at this time.											
Local Environment	The survey school is situated within a suburban area of North London, and houses and gardens at a high density dominate the local land use in all directions for several kilometres. Approximately ~180m to the West runs railways tracks which is lined by trees and could be an important commuting route, particularly for bats. A golf course with trees is present ~750m to the South-West, and a small copse is located ~1km to the South-East. Small streams on the golf course provide the closest source of open water off site. In conclusion, the surrounding area has average potential to provide commuting and foraging resources for a range of protected species. Weather: [at time of survey] <table><tr><td>20th June 2014</td><td>21st June 2014</td></tr><tr><td>Temperature: 21°C</td><td>Temperature: 23°C</td></tr><tr><td>Cloud Cover: 30%</td><td>Cloud Cover: 100%</td></tr><tr><td>Wind: 1/8</td><td>Wind: 0/8</td></tr><tr><td>Precipitation: None.</td><td>Precipitation: None.</td></tr></table>		20th June 2014	21st June 2014	Temperature: 21°C	Temperature: 23°C	Cloud Cover: 30%	Cloud Cover: 100%	Wind: 1/8	Wind: 0/8	Precipitation: None.	Precipitation: None.
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Habitats	Description of Features											
Buildings	There are many buildings around the site of various sizes and designs including brick school buildings with clay/slate/flat roofs, timber utility and maintenance sheds, a flat roofed sports hall/pool, portable cabins and sports equipment buildings. The only building understood to be externally affected by proposed developments is designated as B1. B1 is a brick built two story school building with a third story in the roof void. It has a slate tiled roof of an overall good condition, but with some loose examples. The roof pitches steeply in places, creating almost vertically hanging tiles. Hanging tiles also exist in small areas on roof dormers. There are also areas of peeling lead flashing around the structure, leaving small crevices. Timber soffit boards under the eaves are intact however. Any internal loft space was not surveyed due to inaccessibility, although judging by the shape of the roof there does not appear to be a large loft space in any											

	case.				
Hard Standing/Sports surfaces	Around the site are various paths, paving areas, car parks and artificial surfaces including tennis courts and playgrounds.				
Amenity Grass	Much of the survey site consists of amenity grass fields and boarders. Dock, Daisy and Meadow Buttercup are the commonest plants, alongside the dominant Perennial Rye Grass. It is mown short.				
Long Grass	There are two areas on site where the grass has been allowed to grow long, providing structure and habitat opportunities for reptiles and amphibians to forage. Both are close to ornamental planting areas, providing more areas to exploit.				
Ponds	There are two ponds on site, designated as P1 and P2. P1 is an oval wildlife pond located to the West of the existing sports hall, to the South of the site. P2 is small, rectangular fish pond located in an area of amenity grass at the front of a building to the West of the site.				
Ornamental Planting and Hedges	Around the site are areas of ornamental planting, where trees and shrubs create screening hedges. Flowerbeds featuring horticultural varieties are also scattered around the site. Plants in the more dense areas also include Bramble, Ivy, Gallium, Nettle, Bindweed and Dock.				
Bare Ground	There are small areas of bare ground on site, one to the rear of groundsman huts where the compost heap is located to the East of the site and another to the South-East where a new path has been built.				
Scattered Trees	There are many trees on site, some isolated in areas of amenity grass, some in boarders, others in car parks and the ornamental planting around the site. Species include Laurel, Yew, Oak, Hawthorn, Lime, Cypress, Cherry, Holly, Aspen and Poplar. None that are to be removed or affected have any crevices or holes of habitat potential.				
Species	Species potential defined in Table 2.	Description of features suitable to support a population OR external habitat connectivity to the site			
Amphibian	Moderate	There are two ponds on site. A Habitat Suitability Index (HSI) check was carried out for each:			
		<u>Pond 1 (P1)</u>			
		Suitability Index	Factor	Notes	Score
		SI 1	Location	Optimal	1
		SI 2	Pond area	~50m ²	0.1
		SI 3	Pond drying	Never	0.9

		SI 4	Water quality	Moderate	0.67	
		SI 5	Shoreline shade	20%	1	
		SI 6	Fowl	Absent	1	
		SI 7	Fish	Absent	1	
		SI 8	No ponds/km ^{2*}	0.31	0.38	
		SI 9	Terrestrial habitat	Poor	0.33	
		SI 10	Macrophytes	25%	0.5	
		Multiplied together				0.003781
		HSI				0.572478
		The HSI score for this pond is 0.57, which is rated as BELOW AVERAGE for Great Crested Newts.				
<u>Pond 2 (P2)</u>						
		Suitability Index	Factor	Notes	Score	
		SI 1	Location	Optimal	1	
		SI 2	Pond area	~15m ²	0.05	
		SI 3	Pond drying	Never	0.9	
		SI 4	Water quality	Moderate	0.67	
		SI 5	Shoreline shade	0%	1	
		SI 6	Fowl	Absent	1	
		SI 7	Fish	Major	0.01	
		SI 8	No ponds/km ^{2*}	0.31	0.38	

		SI 9	Terrestrial habitat	Poor	0.33
		SI 10	Macrophytes	0%	0.3
		Multiplied together			1.13E-05
		HSI			0.320236
		The HSI score for this pond is 0.32, which is rated as POOR for Great Crested Newts.			
Badger	Low	No badger setts were found to be present on site. No other badger evidence, e.g. latrines, runs or hair were found to be present. However badgers may occasionally visit the site from other areas.			
Bats	Moderate	Although many of the buildings possess suitable bat habitat in the form of hanging and roof tiles with gaps for example, most will not be affected by the developments. The exception to this is B1. B1 features tile gaps on the roof and piece of peeling lead flashing. This building will have its roof repaired and might destroy bat roosts. Because of this, further surveys are required on this building. None of the trees that are to be removed have any features suitable for roosting bats such as crevices or holes.			
Barn Owl	Negligible	There are no foraging areas for barn owls on site or nearby, and suitable roosting or nesting trees or buildings on site for barn owl use.			
Nesting Birds	Moderate	Several nests were observed on site, in the trees and buildings. Birds could use the trees or buildings again for this in the future.			
Other terrestrial mammals e.g. otter, water vole	Negligible	No suitable habitat. No Evidence found.			
Reptile	Moderate	Small areas of long grass around the survey sites could be affected by development in the future. Reptiles could be using these areas, probably not to a large extent due to their size and isolation from other suitable areas. The presence of a compost heap on bare ground near the long grass to the North-East of the site improves its habitat potential, particularly for slowworms.			

A Phase 1 map can be found at Appendix I illustrating the habitats.

Conclusions and Recommendations

The NPPF and ODPM Circular 06/05 require that planning decisions are based on complete and timely ecological information. Further, it is required by Natural England's 'Standing Advice' that protected species information must be available before a decision can be made.

Following this guidance, it is highly unlikely that the local planning authority will defer the provision of further protected species survey work as a condition of any planning consent.

At this time we have no reason to believe the local planning authority will consider that this level of survey will provide them with inadequate information or lacks scientific rigour. On occasion though, it can become necessary to perform further surveys even after planning consent is given, where there are extenuating circumstances e.g. if protected species or habitats are found at a later date.

However, separately to mitigating and compensating for unavoidable ecological impacts, government has made it clear through the NPPF and circular 06/05 that development requires the enhancement of the quantity and quality of biodiversity and habitat.

Where the local planning authority is minded to grant consent for the proposed development, some basic and cost effective forms of ecological enhancement could be adequately secured through the use of an appropriately worded condition. Suggestions for such measures are referred to below, in Table 4.

Table 4: Conclusions and Recommendations

Species and habitats	Species potential defined in Table 2.	Conclusions	Recommendations	Enhancements under NPPF and Circular 06/05
Habitats	Negligible	All species and habitats found are common and widespread, no rare or unusual plants or habitats were found. The works are not close enough to or large enough in scope to affect any statutory sites.	No further surveys.	
Amphibian	Moderate	P1 has an HSI score of 0.57 which is rated as below average for Great Crested Newts. P2 has an HSI score of 0.32 which is rated as poor for Great Crested Newts. Non-protected newts were found in P1 during the survey after cursory pond dipping, and it is surrounded by limited amounts of excellent habitat, in the form of the long grass area featuring logs which newts could hibernate underneath.	Based on the HSI scores, it is unlikely that Great Crested Newts are using these ponds. However, there is still an unacceptable risk that they are in P1. Limited bottle trap surveys for Great Crested Newts should be carried out in the spring to assess if any Great Crested Newts are using the pond. These should focus on P1 which has the highest HSI score. Three dusk/dawn surveys during the period of March to mid- May will be sufficient to assess the pond. If any Great Crested Newts are found, the survey effort will be increased to 6 dusk/dawn surveys in total.	
Badger	Low	No badger setts were found to be present on site. No other badger evidence, e.g. latrines, runs or hair were found to be present. However badgers may occasionally visit the site from other areas.	No further surveys are required. However the following recommendations are given in order to mitigate against potential harm to badgers during the development works. - Any trenches dug should either be covered at night or have a rough sawn plank placed in them to act as a ramp for any wildlife which may fall in. - Security lighting to be directed away	

			from the undergrowth. Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.	
Bats	Moderate	Although many of the buildings possess suitable bat habitat in the form of hanging and roof tiles with gaps for example, most will not be affected by the developments. The exception to this is B1. B1 features tile gaps on the roof and piece of peeling lead flashing. This building will have its roof repaired and might destroy bat roosts. Because of this, further surveys are required on this building. None of the trees that are to be removed have any features suitable for roosting bats such as crevices or holes.	B1 is a possible bat roost. 2 further dusk emergence surveys should be undertaken. 2 surveyors are required to provide full coverage of the building and trees Optimal: Mid May to August inclusive. Sub-optimal: May to September inclusive - will require a greater survey effort and justification. The information gained from this will be used to help replace the bat roosts, possibly in the new carport due to be built on site. If any other building on site is to have its roof or hanging tiles repaired or altered, specific scoping bat surveys should be conducted on an individual building basis including internal searches. The practice of checking trees for bats before any works should continue on site.	
Barn Owl	Negligible	There are no foraging areas for barn owls on site or nearby, and suitable roosting or nesting trees or buildings on site for barn owl use.	No further surveys.	
Nesting Birds	Moderate	Several nests were observed on site, in the trees and	Any works which affect the trees and shrubs on	~5 new Bird

		buildings. Birds could use the trees or buildings again for this in the future.	site could have an impact on nesting birds. Since all in-use bird's nests and their contents are protected from damage or destruction, any tree and shrub removal should be undertaken outside the period 1st March to 31st August. If this time frame cannot be avoided, a close inspection of trees and shrubs to be removed should be undertaken prior to clearance. Work should not be carried out within 5.0m of any in-use nest and with an Ecological Clerk of Works present In addition, as numerous bird boxes can be found around the survey site at present, if any are taken down in the future they should be replaced with the same type of box.	boxes should be installed on suitable trees around the site.
Other terrestrial mammals e.g. otter, water vole	Negligible	No suitable habitat. No Evidence found.	No further surveys.	
Reptile	Moderate	Small areas of long grass around the survey sites could be affected by development in the future. Reptiles could be using these areas, probably not to a large extent due to their size and isolation from other suitable areas. The presence of a compost heap on bare ground near the long grass to the North-East of the site improves reptile habitat potential, particularly for slowworms.	If either of the long grass areas around P1 or to the North-East of the site is to be removed, Full Reptile Surveys will be needed. A minimum of 8 visits in suitable weather (9°C - 18 °C) are required, one of these is to set-up the survey. Refuges are placed out in a grid pattern to cover all areas of the site, and these are then checked in subsequent visits. These checks should be at least a week apart. This can be done starting from April, the season ending in October, with the optimal being April, May and September. Any reptiles are recorded	More Long grass areas should be encouraged as excellent habitat for a range of protected and non-protected vertebrates and invertebrates.

Bibliography

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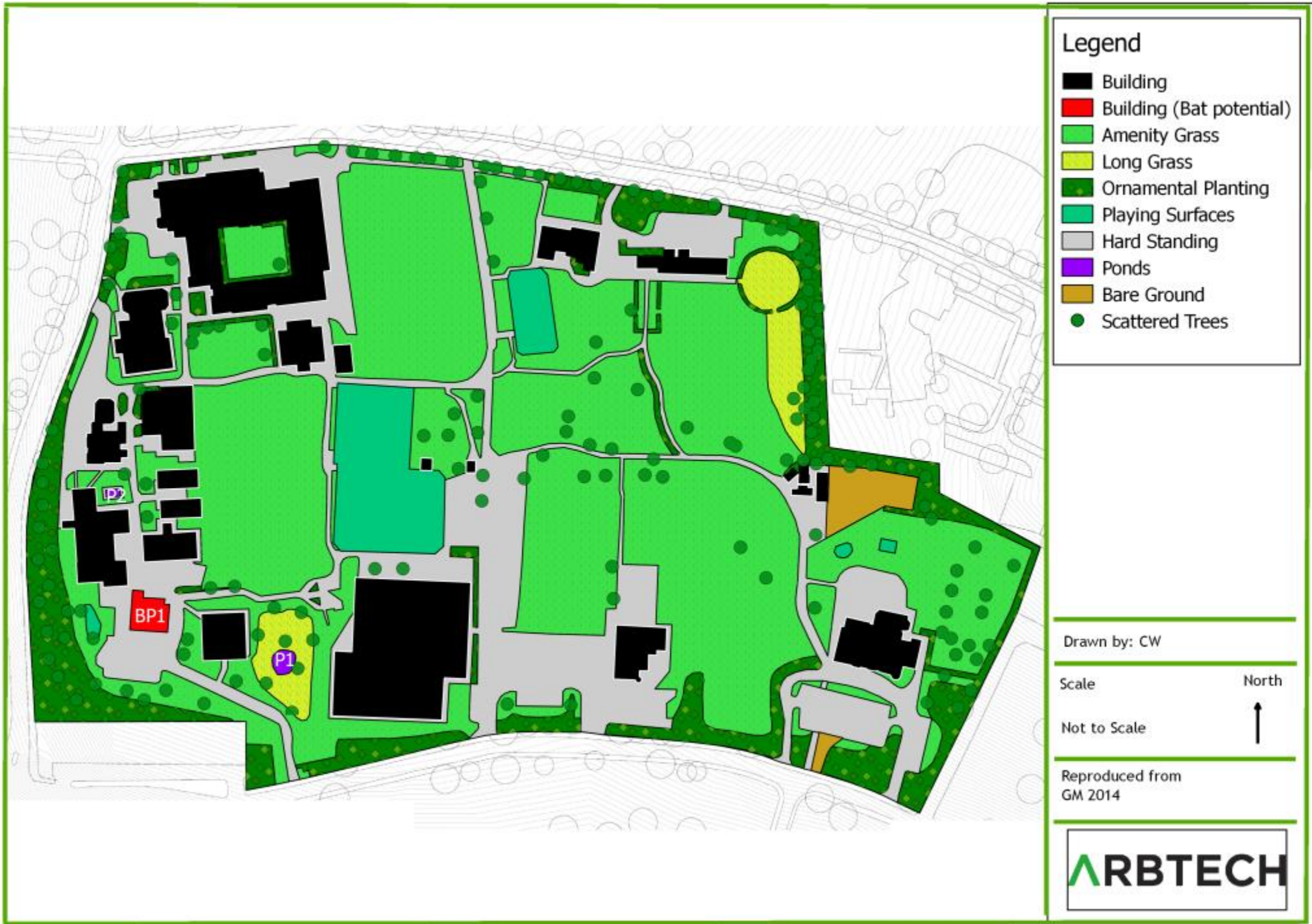
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Appendix II Species

<u>Species</u>	<u>Latin binomial</u>
Cherry	<i>Prunus spp.</i>
Daisy	<i>Bellis perennis</i>
Holly	<i>Ilex spp.</i>
Nettle	<i>Urtica dioica</i>
Pedunculate Oak	<i>Quercus robur</i>
Perennial Rye Grass	<i>Lolium perenne</i>
Ribwort Plantain	<i>Plantago lanceolata</i>
Silver Birch	<i>Betula pendula</i>
Sycamore	<i>Acer pseudoplatanus</i>
Thistle	<i>cirsium arvense</i>

Appendix III Site Photos



Figure 1: The Southern elevation of B1.



Figure 2: The Northern elevation of B1.



Figure 3: The Western end of B1.



Figure 4: Pond 1. Rated as below average for Great Crested Newts.



Figure 5: A small newt found in Pond 1, probably a female palmate newt.



Figure 6: The amenity grass where the new building is to be built.



Figure 7: Long grass to the North-East of the site.



Figure 8: Long grass around Pond 1.



Figure 9: Pond 2, rated as poor for Great Crested Newts.

Appendix IV Summary of Legislation for Various Species

Bats

All 18 species of bat common in the U.K (17 known to be breeding) are fully protected under the Wildlife and Countryside Act 1981 as amended through inclusion in Schedule V. All bat species in the UK. are also included in Schedule II of the Habitats Regulations 2010 which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“EC Habitats Directive”) which defines European protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

1. Intentionally or deliberately kill, injure or capture bats.
2. Deliberately disturb bats, whether at roost or not.
3. Damage, destroy or obstruct access to bat roosts.
4. Possess or transport bats, unless acquired legally.
5. Sell, barter or exchange bats.

A bat roost is defined by the Bat Conservation Trust publication Bat Surveys—Good Practice Guidelines 2nd Edition as “the resting place of a bat” (BCT 2012). Generally however, the word roost is interpreted as “any structure or place, which any wild bat uses for shelter or protection.”

Bats tend to re-use the same roosts; therefore legal opinion is guided by recent case law precedents¹, that a roost is protected whether or not the bats are present at the time. This can include for summer roosts, used for breeding; or winter roosts, used for hibernating.

Common Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981.

This legislation makes it an offence to:

¹ Internet search for e.g. the Woolley case (R. Simon Woolley v. Cheshire East Borough Council) and see here: http://www.naturalengland.org.uk/Images/WoolleyVsCheshireEastBC_tcm6-12832.pdf

1. Kill, injure or take wild birds.
2. Take, damage or destroy the nest of wild birds while it is in use or being built.
3. Take or destroy the eggs of wild birds.

Certain rare breeding birds are listed on Schedule I of The Wildlife and Countryside Act 1981. Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs and or unfledged young e.g. Barn Owl *Tyto alba*.

Reptiles

There are six species of reptiles in Great Britain (Edgar et al. 2010) and four of these are commonly found; the grass snake *Natrix natrix*, adder *Viper aberus*, common lizard *Zootoca vivipara* and slow worm *Anguis fragilis* (“common reptiles.”)

All native British species of reptiles are legally protected through their inclusion in Schedule V of the Wildlife and Countryside Act 1981. As such, all species are protected from deliberate killing or injury. Therefore, where development is permitted, and there will be a significant change in land use, a reasonable effort must be undertaken to avoid committing an offence. The same act makes the trading of native reptile species a criminal offence without appropriate licensing.

Two species of reptile; the smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis*, are further protected through their inclusion in Schedule II of the Habitats Regulations 2010 which transposes Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (“EC Habitats Directive”), which defines European protected species of animals (“rare reptiles.”)

This legislation makes it an offence to:

1. Intentionally or deliberately kill, injure common and rare reptiles.
2. Deliberately disturb or capture rare reptiles.
3. Damage, destroy or obstruct access to rare reptile habitat.
4. Possess or transport a rare reptile or any part of a rare reptile, unless acquired legally.
5. Sell, barter or exchange common and rare reptiles.

Rare reptile species occupy only highly restricted ranges in the extreme south east of coastal England, with isolated populations of sand lizard in e.g. coastal Wales and Cornwall. Smooth snake populations are isolated to lowland heaths in e.g. Surrey, Hampshire, Dorset and West Sussex.

Badgers

Badgers *Meles meles* are vulnerable to baiting, hunting and the detrimental impacts of development on their habitat. Both the badger and its habitat are protected under

The Protection of Badgers Act 1992, Schedule V of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention 1979.

This legislation makes it an offence to:

1. Kill, injure, take or possess a badger.
2. Interfere with, damage or destroy a badger sett including e.g. obstruct access to a badger sett.
3. Cruelly treat or harm a badger.
4. Disturb a badger in a sett.

Penalties for offences are documented (NE 2010) as fines of up to £5,000 and imprisonment for each illegal sett interference or damage or death to a badger.

Great Crested Newts

Populations of great crested newts *Triturus cristatus* declined considerably in the late twentieth century (Langton et al. 2001) due to the intensification of agriculture. They require ponds with good water quality and as they spend most of their life on land these ponds must be surrounded by high quality terrestrial habitat.

Great crested newts are listed in both Annex IV of the EC Habitats Directive and in Schedule V of the Wildlife and Countryside Act 1981.

GCN are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

1. Deliberately kill, injure or capture a great crested newt.
2. Deliberately disturb a great crested newt.
3. Damage, destroy or obstruct access to a structure used for shelter or protection by a great crested newt.
4. Possess or transport a great crested newt.