PRELIMINARY ECOLOGICAL APPRAISAL
AND
PRELIMINARY ROOST ASSESSMENT

WILBURY PLANNING LTD.

TWINEHAM COURT FARM
BOB LANE, TWINEHAM
WEST SUSSEX
RH17 5NH

08TH FEBRUARY 2023

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EXECUTIVE SUMMARY

A Preliminary Ecological Appraisal and concurrent Preliminary Roost Assessment in respect to bats was carried out across land at Twineham Court Farm, in Twineham, West Sussex on the 5th January 2023. Proposals are for the demolition of ten former agricultural and storage buildings and erection of a new events venue. The on-site pond is located outside the application footprint and will be retained and enhanced as part of the design proposals. A small number of trees will require removal to facilitate the works. Associated access will remain the same. A series of two attenuation ponds will be created adjacent to the entrance of the site. The assessment was required in order to ascertain whether any ecological constraints could affect proposed development at the site. The site measures approximately 3 hectares (ha) although the proposed development area will be restricted to approximately 1.7ha.

The main findings of the survey are as follows:

* The site is in a rural environment, within the north-western extent of Twineham. Bolney Electricity Sub-Station is adjacent to the north and in the wider surrounds, a combination of pasture and arable fields are located in all directions together with areas of woodland and scattered residential properties.
* Twineham Court Farm is dominated by a series of former farm buildings with associated fields, boundary features and a pond. The proposed development area is situated in the centre of the wider Twineham Court Farm Estate.
* Proposals will impact discrete areas of semi-natural habitats including approximately 0.2ha improved grassland, 0.02ha ruderal vegetation, 0.06ha scrub and a small number of scattered trees.
* The site is not subject to any statutory or non-statutory designations and there are no statutory or non-statutory designated sites within a 2km radius.
* The site is assessed as being of value at a local level, although habitats are common and widespread, features present within the development area have potential to support widespread breeding birds, bats, badger, reptiles and great crested newt.
* The wider site boundaries may also form part of the wider ecological network, providing wildlife corridors for more mobile species including bats and badgers to move through the landscape, particularly to woodland in proximity to the site to the west.
* Based on the results of the PEA survey, breeding birds, bats, badger, reptiles and great crested newt pose some constraints to the proposed works.

- No direct or secondary evidence of bats was recorded during the preliminary roost assessment in relation to any of the ten surveyed buildings. Overall, the buildings have limited potential to support roosting bats due to an absence of any suitable features and therefore no further emergence and activity surveys in relation to the buildings are considered necessary and works to demolish the structures can be undertaken without constraints posed by this species group. However, in order to assess current use of the proposed development area (and wider farm estate) by bats for foraging and commuting, a series of bat activity transect surveys, and concurrent static monitoring surveys, are recommended in accordance with current guidelines. The results of the surveys can then be used to devise suitable mitigation for the site.
- The development area supports potentially suitable terrestrial habitat for great crested newt and a habitat mosaic considered suitable for reptiles. It is therefore recommended that further surveys in relation to both great crested newt and reptiles are undertaken in order to ascertain presence and distribution of these species and to enable suitable mitigation to be devised.
- It is considered that adopting a precautionary approach to works in respect to widespread breeding birds and badger will be sufficient to fully safeguard these species' groups.
- The site has been subject to intensive farm use over a prolonged period and as a result, the grassland diversity has been reduced through enrichment and some features, including the pond and scattered trees around the site, have been subject to poor management. The proposed scheme provides an opportunity to enhance the site for biodiversity.
- Details regarding further survey together with precautionary working practices and site enhancement measures in order to provide a net gain in biodiversity are provided in the Recommendations section of the report

1 INTRODUCTION

Background

1.1 CT Ecology Limited was commissioned by Wilbury Planning Ltd. to undertake a Preliminary Ecological Appraisal and concurrent preliminary bat roost assessment, to inform the potential ecological constraints of proposed development within land at Twineham Court Farm in Twineham, West Sussex (hereafter referred to as "the site").

1.2 This report has been compiled in accordance with current guidelines (British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development, 2013; CIEEM, 2013 & 2016; Collins et al, 2016; and Mitchell-Jones & McLeish. 2004).

1.3 The purpose of the Preliminary Ecological Appraisal was:

* to classify the major habitats present;
* to identify the potential for any legally protected species to be present;
* to evaluate the nature conservation importance of the site;
* to recommend any additional ecological surveys and mitigation; and
* to provide recommendations for site enhancement.

1.4 This report also provides an assessment of the status of bats at the site, providing information on their presence/absence and distribution. Potential impacts of the proposed works are identified and measures to mitigate the effects of the development on this species group is discussed, where applicable

Development Proposals

1.5 Proposals are for the demolition of ten former agricultural/storage buildings to facilitate the erection of a new events venue. The on-site pond is located outside of the application footprint and will be retained and enhanced as part of the design proposals. A small number of trees will require removal to facilitate the works. Associated access will remain the same; extending from Bob Lane to the south. A series of two attenuation ponds will be created adjacent to the entrance of the site to improve drainage at the site post works. These will be created primarily for wildlife.

Site Description

1.6 The site is within a rural location within the north-western extent of Twineham, in the Mid Sussex District of West Sussex at National Grid Reference TQ245 208. Twineham Court Farm is dominated by a series of former farm buildings with associated fields, boundary features and a pond. Vehicular access is via an unmade track extending from Bob Lane to the south. The area included in the survey comprises the wider farm estate covering approximately 3 hectares (ha) although the proposed development area will be restricted to approximately 1.7ha; situated in the central and southern extents of the wider farm estate.

1.7 Twineham Court Farm is bounded by a combination of grazed fields and a large electricity substation to the north, grazed fields to the east and west and south beyond Bob Lane. A woodland block is also to the west.

1.8 In the wider surrounds, a combination of pasture and arable fields are located in all directions together with areas of woodland and residential properties. The town of Burgess Hill is approximately 5km to the south-east.

2 METHODOLOGY

Desk Study & Consultations

2.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites, legally protected species and features of interest within a 2km radius of the site and an online search for any Protected Species Mitigation Licences (PSML) within 1km. The data search was based on information provided by Sussex Biodiversity Record Centre (SxBRC 2023); Multi-Agency Geographical Information for the Countryside (MAGIC, 2023); Ordnance Survey mapping; and aerial photography.

Field Survey and Assessment

2.2 An ecological survey of the site was undertaken on 5th January 2023 by Carly Teague, a suitably qualified ecologist with over 15 years' experience as a professional ecologist. The weather conditions during the survey were cold and dry with a light breeze. The temperature was 8°C at the start of the survey.

2.3 The field survey comprised a walkover inspection of the land and habitats present. The survey followed standard Phase 1 survey methodology (JNCC, 2010) and covered all accessible parts of the site, including boundary features. Habitats were described and mapped (Appendix B). A list of plant species was compiled, together with an estimate of abundance made according to the DAFOR scale (Appendix D).

2.4 This assessment provides information on the habitats in the survey area and identifies actual or potential presence of legally protected or otherwise notable species/habitats in or immediately adjacent to the site.

2.5 Target notes highlighting a particular feature of ecological interest are provided in Appendix A, with associated photographs.

2.6 Scientific names are given after the first mention of a species, thereafter, common names only are used. Nomenclature follows Stace (2010) for vascular plant species.

Protected Species Assessment

2.7 The potential for the site to provide habitat for protected species was assessed from field observations in conjunction with results of the desk study. The site was inspected for indications of the presence of protected species including:

* Habitat considered suitable to support widespread reptile species including areas with a scrub/grassland mosaic and potential hibernation sites;

- on-site ponds offering potential breeding opportunities for great crested newt (*Triturus cristatus)* and the presence of suitable terrestrial habitat including hedgerows and rough grassland;
- presence of features in, and on trees, indicating potential for roosting bats *Chiroptera*, including knot and rot holes and loose bark. The presence of features on buildings including loose roof tiles, gaps in fascia boarding in addition to secondary evidence including staining, droppings and feeding remains;
- presence of nesting habitat for breeding birds, including mature trees, dense scrub and hedgerows and direct evidence of bird nesting including bird song, old nests etc;
- presence of woodland and or hedgerows providing suitable habitat to support hazel dormouse (*Muscardinus avellanarius)*; and
- habitats considered suitable to support badger (*Meles meles)* setts, and evidence in the form of hair, pathways and latrines.

2.8 The potential presence for protected species is categorised as Negligible, Low, Moderate, High or Present, based on the findings of the field survey and on the evaluation of existing data.

2.9 The purpose of this assessment is to identify whether more comprehensive Phase 2 surveys for protected species or mitigation should be recommended.

Preliminary Roost Assessment

2.10 The building inspection was carried out concurrently with the PEA in accordance with good practice guidelines (Collins, 2016).

2.11 The interior and exterior of the buildings were inspected closely with the aim of identifying the presence of bats and any secondary evidence together with any potential roost sites. Secondary evidence includes droppings, feeding remains, scratch marks and oil and urine staining.

2.12 The external inspection comprised a detailed search of all accessible architectural features for bat droppings, urine staining, scratch marks, staining around suitable crevices and feeding remains. A high-powered torch was used to illuminate internal features at height, for instance the apex of the roof and associated supporting beams, and these were inspected using close focusing binoculars when required.

2.13 Where access permitted, and where present, roof voids were also inspected. This comprised a search of the floor area and other flat surfaces, including stored materials, in order to find evidence of discarded feeding remains and bat droppings. Internal features such as the roof lining were examined to assess actual or potential roost opportunities.

Caveat

Data Search

2.14 It is important to note that, even where data is held, an absence of records for a defined area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Preliminary Ecological Appraisal

2.15 Ecological surveys are limited by factors that affect presence of plants and animals such as seasonality. Whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the environment.

2.16 The appraisal does not constitute a full botanical survey, or a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species. This survey provides a preliminary view of the likelihood of protected species occurring on the site based on the suitability of the habitat, known distribution of the species in the local area and any direct evidence observed during the survey. It is therefore used as a tool to recommend further protected species surveys (or other species of significant nature conservation interest) if on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that protected species may be present.

2.17 It is considered that the survey was sufficiently rigorous to assess the ecological value of the site.

Bat Survey Constraints

2.18 Bats are mobile animals and can move roost sites throughout the year. It is possible that a PRA carried out in January may miss roosts occupied earlier or later in the year. However, where undisturbed, it is possible to find secondary evidence of bats inside a building throughout the year, although secondary signs may be missed where they are within an area that can't be fully accessed. It was not possible to gain internal access into Building 9 during the assessment however this was subsequently excluded from the PRA as these will be retained as part of the proposed development.

3 BASELINE CONDITIONS

Aerial Photography and OS Maps

3.1 The site is in a rural environment, within the north-western extent of Twineham, approximately 5km to the north-west of Burgess Hill. Land-use in the immediate vicinity is dominated by agricultural fields. Bolney Electricity Sub-Station is adjacent to the north.

3.2 There is one on-site pond. There are a further 11 ponds within 500m of the site. Over 30 woodland blocks are present within a 2km radius, the closest of which is approximately 20m to the west of the site.

Protected Species Mitigation Licences (PSML)

3.3 A total of seven PSML's were returned within a 1km radius of the site. A total of two of these were for bats relating specifically to common pipistrelle from 2010 and 2017, approximately 1km to the south-west and 900m to the north-west respectively, although specific details regarding these PSML's were not disclosed.

3.4 The remaining PSML's related to great crested newt from 2014, 2015, 2016, 2017 and 2018, all of which are located between 150m and 550m to the north-west.

3.5 A total of 24 licence returns in respect to great crested newt have been returned within 1km of the site.

Statutory and Non-Statutory Designated Sites

Statutory Sites

3.6 The site is not subject to any statutory designations. There are no statutory designated sites within a 2km radius.

Non-Statutory Sites

3.7 The site is not subject to any non-statutory designations and there are no non-statutory designated sites within a 2km radius.

Other Habitat Classifications

Ancient Semi-Natural Woodland

3.8 Approximately 14 blocks of ancient semi-natural woodland (ASNW) and ancient replanted woodland are present within 2km of the site, located in all directions. The closest of which is East Lodge Shaw, a small woodland block located approximately 450m to the south-east at its closest point.

Habitats

Site Summary

3.9 The main habitats recorded within the site are described below. Additional details are shown on the habitat survey map in Appendix B, and the target notes are listed in Appendix A.

Table 3.1: Habitat Descriptions

Habitat Type	JNCC Code	Description	Area (ha)
Buildings	J3.6	A series of 12 buildings were located within the site, 9 of which are included in the redevelopment proposals. These formed the main farm complex in the central and northern extent of the site. Building 1: A corrugated sheet metal and concrete agricultural building in the north-east site extent. In a state of advanced disrepair. Building 2: An open corrugated sheet metal agricultural building to the east of B1, with adjoining concrete pig pens extending from the western elevation. In a state of advanced disrepair. Building 3: A series of pigpens to the north of B2. In a state of disrepair. Building 4: A large former milking unit with concrete block walls and sheet concrete pitched roof. In a state of disrepair. Building 5 and 6: A series of former pigpens located to the south of B4. Building 7: An open garage unit. Building 8: A large, irregular shaped building with concrete walls and a pitched corrugated sheet metal roof.	0.1

		Building 9: A brick-built barn with areas of timber cladding. This building is excluded from the current proposals. Building 10: A small prefabricated concrete structure to the west of Building 9. Building 11: A brick-built former farmhouse with pitched tiled roof situated in the west of the site. This building is excluded from the current proposals. Building 12: A large agricultural building with concrete breeze block walls and a pitched corrugated concrete roof. *Buildings 1-8 inclusive and Buildings 10 and 12 will be demolished as part of the proposals. The remaining buildings are excluded from the design proposals and will be retained.* More details on the buildings included in the current application are provided in the PRA section of the report.	
Improved Grassland	B4	Grassland fields extended around the periphery of the farm estate together with verges adjacent to the access road. The grassland showed signs of being subject to intensive grazing over a prolonged period. The sward was dominated by a small number of coarse grassland species which were indicative of regular, long-term management and included Yorkshire fog (*Holcus lanatus*), cock's-foot (*Dactylis glomerata*) and perennial ryegrass (*Lolium perenne*). Forbs were restricted throughout the sward and were mostly associated with the verges which have likely been subject to less intensive farm management and disturbance over time. Species included creping buttercup (*Ranunculus repens*), daisy (*Bellis perennis*), and toothed medic (*Medicago polymorpha*). Grassland also extended along the verges of the access track.	1.5
Standing Water	G1	A medium sized, irregular shaped pond was adjacent to Building 8 in the east of the site. This was heavily shaded by trees including alder (*Alnus glutinosa*), in addition to alder and blackthorn (*Prunus spinosa*) scrub. As a result, the water appeared to be of low quality and supported a large amount of fallen dead	0.05

		wood. No aquatic plant species were observed within the water column at the time of the assessment.	
Scattered Trees	A3.1	A number of semi-mature alder trees together with self-seeded saplings were present around the pond together with silver birch (*Betula pendula*) and hazel (*Corylus avellana*). A small number of mature and semi-mature scattered trees were also present around the site boundaries and throughout the grassland with species including oaks (*Quercus* sp.), elder (*Sambucus nigra*), wild cherry (*Prunus avium*) and eucalyptus (*Eucalyptus* sp.). Many trees were showing signs of poor growth due to a lack of management. An area of recent tree planting was also present along the northern boundary; in the north-east corner of the site.	0.05
Scrub	A2.2	Areas of dense and scattered scrub had formed along the site boundaries, around the pond and throughout the northern site extent. Species included bramble (*Rubus fruticosus* agg.), blackthorn, hazel and elder.	0.6
Ruderal/Ephemeral/Short Perennial Vegetation	J1.3/C3.1	Relatively recently colonised ruderal/ephemeral species were associated with the central site extent; developing around the buildings and on top of areas of concrete. Species included speedwells (*Veronica* sp.), bristly oxtongue (*Picris echioides*), thistles (*Cirsium* sp.), common nettle (*Urtica dioica*), knapweed (*Centaurea* sp.) and docks (*Rumex* sp.).	0.1
Bare Ground/Hardstanding	J4	A crushed aggregate access track extended from Bob Lane to the south, extending past the farmhouse (Building 11), enabling access to the farm buildings. A recently constructed access track also branched off the main access, extending east around the pond. A series of concrete slabs extended between the farm buildings in the north of the site.	0.6
Hedgerow	J2.1	Hedgerow 1: A short, managed non-native hedgerow extending east to west to the north of the farmhouse (Building 11). This comprised Leyland cypress (*Cupressocyparis leylandii*) which measured approximately 8m in length.	0.0008

Spoil	I2.2	Areas of recently stacked building materials were present throughout the farm estate.	0.01

Protected Species

Legislation

3.10 Legislation relating to the protected species referred to in this section is included in Appendix C.

3.11 The following paragraphs detail the suitability of the on-site habitats to support protected species and include information from the data search for protected, rare and otherwise notable species returned within a 2km radius.

Birds (excluding barn owl)

3.12 A total of six red and six amber listed Birds of Conservation Concern[1] (BoCC) were returned by the data search which may utilise habitats within the site. These include song thrush (*Turdus philomelos*); starling (*Sturnus vulgaris*); house sparrow (*Passer domesticus*); herring gull (*Larus argentatus*); lapwing *(Vanellus vanellus);* skylark *(Alauda arvensis*); dunnock (*Prunella modularis*); sparrowhawk (*Accipiter nisus*); kestrel *(Falco tinnunculus);* redstart (*Phoenicurus phoenicurus*); mallard (*Anas platyrhynchos*); and moorhen (*Gallinula chloropus*).

3.13 The site supported a pond, grassland fields, trees and scrub which provided potentially suitable features for a range of widespread breeding birds in addition to farmland specialists including small numbers of widespread wetland birds (Target Note 1 on the Habitat Map in Appendix B). A small number of buildings within the site (Buildings 4, 7, 8, 9 and 12) supported features internally with potential for use by widespread birds. Features associated with these buildings included gaps above supporting rafters, on the top of dividing walls and at the eaves.

3.14 Overall, the site has **high** potential for nesting birds, throughout a range of habitats.

[1] Birds of Conservation Concern status is prioritised into high concern (Red), medium concern (Amber) and low concern (Green) (Eaton et al, 2009). Red-list species are those that are globally threatened according to the IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and have not shown a substantial recent recovery. Amber-list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations. Green-list species are those that fulfil none of the criteria.

Barn Owl

3.15 The data search a number of recent (post 2011) records for barn owl within 2km of the site, although no records were returned from within the site.

3.16 The on-site buildings did not support any potential roosting or nesting habitat for barn owl due to an absence of suitable features. The grassland fields bounded by scrub and tree lines were considered to provide optimal conditions for foraging by barn owl due to the presence of cover for prey species however there was an absence of foraging opportunities within the proposed development area.

3.17 Overall, the site was considered to provide **negligible** potential for nesting and **moderate** potential for foraging by barn owl, although the potential for foraging was assessed as being **negligible/low** within the proposed development footprint.

Reptiles

3.18 The data search returned a small number of recent (post 2011) records for grass snake (*Natrix helvetica*) and common lizard (*Zootoca vivipara*) within 2km of the site. The closest record was from 2012 for grass snake, located approximately 60m to the north.

3.19 Reptiles typically require a habitat mosaic which provides opportunities for sheltering, basking and hibernation. The site supported areas of ruderal, grassland and scrub habitat together with areas of stacked spoil which provided opportunities for sheltering, basking and foraging by widespread reptiles, to include areas within the proposed development footprint (Target Note 2 on the Habitat Map in Appendix B). The pond may also provide foraging opportunities for grass snake, recorded in the locality.

3.20 Overall, the site, to include the proposed development area, was considered to provide **high** potential for reptiles.

Great Crested Newt (and other amphibians)

3.21 The data search returned 61 recent (post 2011) records for great crested newt within 2km of the site. No records were returned from within the site. The closest record was from a woodland pond approximately 20m to the west where a small population of great crested newt were recorded in 2019. A low population has also been returned from a network of three ponds between 60m and 130m to the south-west

3.22 A large number of records were also returned for common frog (*Rana temporaria*), common toad (*Bufo bufo*), smooth newt (*Lissotriton vulgaris*) and palmate newt (*L. helveticus*) within a 2km radius. The closest records were for common frog and smooth newt from the woodland pond approximately 20m to the west in 2019.

3.23 In addition to the on-site pond, the desk study returned a further six ponds within 250m.

3.24 The on-site pond provides potentially suitable breeding habitat for great crested newt and other amphibians. Although aquatic vegetation, used for egg laying, was absent at the time of the assessment, aquatic plant species may be present but not visible above the surface of the water at the time of the assessment which was carried out in the winter. In addition, overhanging vegetation may be suitable for egg laying (Target Note 3 on the Habitat Map in Appendix B).

3.25 Overall, the pond received a score of 'Good' when applying the Habitat Suitability Index (HSI) Assessment to the water body. Although the HSI cannot be used to ascertain presence/likely absence of newts, this assessment is used to give an indication of suitability for the water body to support great crested newts. The high score achieved is likely to be due to the size of the water body, presence of suitable terrestrial habitat adjacent to the pond and presence of a network of ponds in the locality. The presence of recent records for great crested newts and other amphibians in ponds close to the site increase the potential for amphibians to utilise the on-site pond.

3.26 The network of grassland, ruderal and scrub habitats adjacent to the pond provide connectivity to off-site terrestrial habitat and the network of ponds in the wider landscape (Target Note 4 on the Habitat Map in Appendix B).

3.27 Overall, the site, to include the development footprint, was considered to provide **high** potential to support great crested newt and other amphibians.

Bats

3.28 At least eight species of bat have been recorded within 2km of the site boundary. This includes pipistrelle species (*Pipistrellus* sp.); common pipistrelle (*Pipistrellus pipistrellus*); soprano pipistrelle (*P. pipistrellus*); myotis bat (*Myotis* sp.); noctule (*Nyctalus noctula*); serotine (*Eptesicus serotinus*); long-eared (*Plecotus* sp.); and brown long-eared bat (*P. auritus*).

3.29 The most frequently recorded bat species was brown long-eared followed by common pipistrelle with a total of 18 and 15 records for these species respectively.

3.30 The closest roost record was from 1990, which was an unspecified bat roost, approximately 400m from the site. The closest, recent record (post 2011) was for a long-eared maternity and feeding roost from 2014, approximately 800m from the site.

3.31 Records of foraging/commuting passes by noctule, myotis sp., common pipistrelle, soprano pipistrelle, and long-eared were returned approximately 1.5km to the south of the site, from 2019.

3.32 There were a series of 12 structures throughout the site. The majority of which had limited potential for roosting by bats due to the design of the buildings, many of which were in an advanced state of disrepair. The farmhouse (Building 11) and barn (Building 9) supported some potential roosting features in the form of gaps in timber cladding and potential void areas internally (Target Note 5 on the Habitat Map in Appendix B) although these are both excluded from the current proposals. More details are provided in the PRA section of the report.

3.33 A small number of scattered trees within the site supported potential roosting features such as knot holes and splits (Target Note 6 on the Habitat Map in Appendix B).

3.34 The on-site habitats provided suitable foraging and commuting opportunities for bats, with good connectivity between habitats in the wider landscape (Target Note 7 on the Habitat Map in Appendix B).

3.35 Overall, the site as a whole was considered to provide **moderate/high** potential for foraging and **moderate** potential for roosting bats with the proposed development footprint providing **low/moderate** potential for foraging bats and **negligible** potential for roosting bats.

Badger

3.36 Records for this species are kept confidentially and were not returned by the data search.

3.37 No evidence of badgers in the form of setts was observed during the assessment or within the surrounding 30m, where access permitted.

3.38 A series of mammal pathways, possibly made and used by badger, were within the southern and western site extent, extending between adjacent woodland to the west and adjacent grassland fields and boundary habitats to the south-west (Target Note 8 on the Habitat Map in Appendix B). A badger footprint was also observed off-site, approximately 20m from the wider site boundary, extending under a fence. No other secondary evidence including latrines or hairs were observed during the assessment or within the surrounding 30m, where access permitted. No secondary signs of badger were associated within the proposed development area.

3.39 The grassland provided some potential for foraging by this species, with connectivity to a wider network of agricultural fields and woodland in all directions.

3.40 Overall, the site was considered to provide **high** potential for this species.

Hazel Dormouse

3.41 The data search did not return any records for hazel dormouse within 2km of the site.

3.42 Dormice are largely arboreal and rely on blocks of diverse woodland and interconnected hedgerows for survival. Individuals rarely descend to the ground except to hibernate over winter months at the base of trees. Dormice favour a range of plant species which provide a food source throughout the year. Favoured species include an abundance of hazel and honeysuckle together with frequently occurring oak and bramble amongst other species.

3.43 The site did not support any optimal dormouse habitat. Areas of scrub supported plant species favoured by hazel dormouse however these were largely isolated from areas of woodland and associated connecting tree lines and hedgerows in the wider landscape, significantly reducing the potential for this species to pass through on-site features. Although an area of boundary scrub in the western site extent was connected to woodland adjacent to the west, the on-site scrub was limited in extent and supported limited species diversity, reducing the potential for dormouse to utilise this feature to some degree.

3.44 Overall, the site was considered to provide **low** potential for hazel dormouse with the proposed development footprint providing **negligible** potential for this species.

Other Species

3.45 A number of records for West European hedgehog (*Erinaceus europaeus*) have been returned within 2km of the site and this species may pass through habitats within the site.

3.46 A number of butterfly and moth (Lepidoptera) species were returned from the data search. The intensively managed nature of the grassland serves to limit the suitability for significant populations for these species groups to utilise habitats within the site however species including cinnabar moth (*Tyria jacobaeae)* may exploit features within the site throughout some of the year.

Invasive Non-Native Species (INNS)

3.47 No INNS were observed during the survey, where access permitted.

Preliminary Roost Assessment

3.48 A series of ten buildings were included in the development proposals and were therefore included in the assessment. These are detailed below and are illustrated on the habitat map in Appendix B. Buildings 9 and 11 were excluded from the assessment as these will be retained as part of the works.

Table 3.1: Building Descriptions

Building Reference	Description	Potential Roosting Features	Summary of Findings
1	A medium sized former agricultural unit with a footprint of approximately 90m^2. The building had corrugated sheet metal and concrete walls over a metal and timber supporting frame. The western extent of the building was absent, with discrete sections of the supporting framework remaining. Sections of the sheet walls associated with the eastern portion of the building were also in the process of falling off or were missing completely. Discrete sections of a pitched sheet metal roof remained within the eastern extent of the building. This section had a double, wide ridge line with large gaps throughout the roof structure.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.
2	A former agricultural unit with a footprint of approximately 180m^2. The main section of the building comprised concrete breeze block and brick walls throughout the lower section with corrugated concrete sheeting above. The roof comprised concrete sheeting which was pitched north to south. The building was in a state of disrepair with the large sections of the concrete sheeting having fallen away from the walls and sections of the roof. Internally the building had a metal supporting frame with timber rafters and a wide ridge line. A series of pig pens were attached to the western elevation. These were constructed from concrete blocks with single pitched concrete sheet roofing. The pig pens were accessed from the west and scrub had encroached throughout this section of the structure.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.
3	A series of animal shelters located to the north of Building 2 with a footprint of approximately 40m^2. These were constructed from concrete blocks with single pitched concrete sheet roofing. The shelters were accessed from the south and sections of the roof had collapsed. Internally the shelters had a metal supporting frame.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.

4	A large, former milking building extending over approximately 375m^2. The structure had concrete breeze block walls with a pitched corrugated sheet concrete roof. Natural gaps were present along the roof line where the corrugated sheet roof overhung the walls. The walls were in good condition. Discrete gaps in the sheeting were observed on the roof. UPVC guttering extended along the roof line on the eastern and western elevations, reducing potential ingress opportunities by birds and bats via the gaps along the roof line at these locations. A series of vents were located along the ridge line and UPVC skylights were fitted into the roof pitches. The vents were rusted and in a state of disrepair. Glazed windows were present along the eastern and western elevations, some glazed panels were missing. Access was via a timber door on the southern elevation. Internally the building was in state of disrepair. A concrete floor with central walkway was present. The former dividing walls which would have created the animal stalls had been removed with debris scattered around the floor. On the roof, there was a metal supporting truss frame with wide, open ridge line and supplementary timber rafters fitted to the metal supports in places around the building. Gaps were present between joints in the timber framework however these were large and covered in dense cobwebs. High light levels were present throughout due to the windows and skylights. Numerous ingress opportunities were associated with the building via broken windows, gaps in the roof and the open door on the southern elevation and to a lesser extent, via gaps along the roof line associated with the corrugated sheeting.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.
5	A large former animal shelter extending over approximately 30m^2 with domed corrugated concrete sheet roof/walls. The walls on the northern and southern elevations were absent. Internally the building did not have a supporting structure, with the domed sheeting forming the supporting element of the building. Scrub had encroached throughout the structure.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.

6	A large former animal shelter extending over approximately 50m^2 with domed corrugated concrete sheet roof/walls and a combination of brick and concrete block walls. A window was present on the northern elevation. The glazed panel was absent. Internally the building did not have a supporting structure, with the domed sheeting forming the supporting element of the building. Potential ingress was via the open window and open access on the northern elevation.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.
7	A former single garage with a footprint of approximately 15m^2. The former garage door had been removed from the northern elevation. The walls were concrete with a flat corrugated sheet concrete roof. Internally there was a narrow supporting metal frame.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.
8	A large, irregular shaped building extending over approximately 280m^2. Previously used as stables and for storage. The building had concrete breeze block walls with a single pitched corrugated sheet metal roof with UPVC skylights. A discrete section of sheet metal formed the upper section of the wall on the southern elevation. Concrete fascias were present which were tightly fitted to the walls. A broken stable door was present on the northern elevation and open doorways were present on the western and southern elevations with the doors previously removed, enabling ingress into the building at these locations. A series of windows were also present on the eastern and southern elevations, some of which had broken glazing, enabling potential ingress opportunities at these locations. Integrally the building was divided into a series of rooms with full height concrete block dividing walls and internal timber doors. The building had a timber and metal supporting roof frame and no ridge line. The timbers were well sealed with no obvious gaps or cracks. The roof was largely single skinned with the exception of discrete sections of timber boarding fixed to some of the sections of the metal sheeting. These showed signs of prolonged water ingress and some were falling away from the roof, exposing the	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.

	metal sheeting above.		
10	Building 10: A small, prefabricated concrete storage unit with slightly pitched, corrugated sheet metal roof. UPVC and timber fascias were on the northern and southern gables and UPVC guttering extended along the western elevation. Access was via a doorway on the western elevation. The door had been removed. Internally the structure had a metal supporting frame and was plaster boarded throughout.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.
12	An agricultural building extending over approximately 165m^2. The structure had concrete breeze block walls with a pitched corrugated sheet concrete roof. Natural gaps were present along the roof line where the corrugated sheet roof overhung the walls. The walls were in good condition. UPVC guttering extended along the roof line on the eastern and western elevations, reducing potential ingress opportunities by birds and bats via the gaps along the roof line at these locations. A series of vents were located along the ridge line and UPVC skylights were fitted into the roof pitches. The vents were rusted and in a state of disrepair. Glazed windows were present along the eastern and western elevations, some glazed panels were missing. Access was via metal doors on the southern elevation. Internally the building was in state of disrepair. A concrete floor was present with debris scattered around the floor. On the roof, there was a metal supporting truss frame with wide, open ridge line and supplementary timber rafters fitted to the metal supports in places around the building. Gaps were present between joints in the timber framework however these were large and covered in dense cobwebs. High light levels were present throughout due to the windows and skylights. Numerous ingress opportunities were associated with the building via broken/open windows and to a lesser extent, via gaps along the roof line associated with the corrugated sheeting.	None present	No bats or secondary evidence of bats were noted within or adjacent to the survey structure and overall the building is considered to provide **negligible** potential for roosting bats.

4 EVALUATION

4.1 On the basis of the information available from the habitat survey and desk study, the site has been evaluated in terms of its potential for biodiversity, support of protected species and habitats, and the contribution the area makes as part of the wider landscape. The nature conservation value of the site has been assessed following standard criteria developed by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2006) and is provided below.

4.2 The biodiversity value of protected species within the site is a preliminary evaluation based upon the desk study records, habitat suitability and the conservation status of the species in question. It should be noted that where European Protected Species (EPS) or species of Principle Importance for the Conservation of Biodiversity are present on-site they may be valued at a lower level/scale where it is considered likely that populations would not be of sufficient importance to justify designation at a higher level. However, regardless of their biodiversity value, such species are still subject to national and/or European legislation.

4.3 Key aspects of relevant planning policy regarding conservation, including an explanation of species referred to as being of 'Principal Importance for Conservation of Biodiversity' and European Protected Species and habitats, are provided in the Legislation section in Appendix C.

Geographic Evaluation

Features of International Importance

4.4 Features of International Importance are principally sites covered by international legislation or conventions, implemented by the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales. The Regulations mainly deal with the protection of sites with certain habitats and populations of species that are important for nature conservation in a European context, i.e., Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's).

4.5 The site is not subject to any international statutory nature conservation designations. The closest site of International Importance is Arun Valley SAC located approximately 18.5km south-west; The site is designated for the population of ramshorn snail (*Anisus vorticulus*), supporting two of its core sites in the wash lands of the Arun floodplain (Pulborough Brooks and Amberley Wild Brooks SSSI's).

4.6 The survey site does not provide any functionally linked land for the SAC. Based on the distance from the application site, the construction and operational phases of the works are not considered likely to have any significant negative impact on Arun Valley.

Features of National Importance

4.7 Features of national importance include SSSIs which are designated under the Wildlife and Countryside Act 1981 (as amended).

4.8 The closest site of national importance is Ditchling Common SSSI, located approximately 8.6km to the south-east. Ditchling Common SSSI supports a range of grassland types which have resulted from the wide variation in drainage conditions. The flora includes a number of locally uncommon plants. The survey site does not provide any functionally linked land for the SSSI and it is not considered that any habitats or populations or assemblages of species within the site would meet the criteria for the designation of a SSSI at an appropriate geographic level[2].

Features of Regional Importance

4.9 The site does not include any features of value at this level neither is it likely to be selected as a wildlife site based on the results of the current survey.

Features of District Importance

4.10 Habitats are common and widespread in the district. The site does not support any features that were considered to be of value at this level.

Features of Local Importance

4.11 The site supports a habitat mosaic to include standing water habitats which have potential to be used by small numbers of note-worthy species, including Species of Principal Importance and Sussex BAP species, to include widespread but declining species of birds, together with foraging bats, reptiles, badger and great crested newts.

4.12 It is unlikely that the site would support rare species, or diverse assemblages or large populations of any noteworthy species however the site may well support populations of some value at a local level.

Features of Value in the Immediate Vicinity (c. 250m) of the project

4.13 The site supports features with potential for use by small numbers of protected species. The site is therefore of some value at this level.

[2] JNCC Guidelines for selection of biological SSSIs (see http://jncc.defra.gov.uk/page-2303#download).

Summary

4.14 Overall based on the survey results and the above criteria, the site is considered to be of importance largely at a local level supporting potentially suitable habitat for use by some protected BAP species and groups including widespread breeding birds, foraging bats, badger, reptiles and great crested newt.

Local Plan Evaluation

4.15 It is considered that the Mid Sussex District Plan 2014-2031 and the Mid Sussex Local Plan 2004 (saved policies) contain nature conservation policies relevant to the site. A summary of the relevant policies is contained in the Legislation section in Appendix C and this should be referred to.

5 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

5.1 The site is in a rural environment, within the north-western extent of Twineham, in the mid Sussex district of West Sussex. Bolney Electricity Sub-Station is adjacent to the north and in the wider surrounds, a combination of pasture and arable fields are located in all directions together with areas of woodland and scattered residential properties.

5.2 Twineham Court Farm is dominated by a series of former farm buildings with associated fields, boundary features and a pond. The proposed development area extends over approximately 1.7ha and is situated in the southern and central extents of the wider Twineham Court Farm Estate.

5.3 Proposals are for the demolition of ten former agricultural and storage buildings and erection of a new events venue. The on-site pond is located outside the application footprint and will be retained and enhanced as part of the design proposals. A small number of trees will require removal to facilitate the works. Associated access will remain the same. A series of two attenuation ponds will be created adjacent to the entrance of the site.

5.4 Proposals will impact discrete areas of semi-natural habitats including approximately 0.2ha improved grassland, 0.02ha ruderal vegetation, 0.06ha scrub and a small number of scattered trees.

5.5 The site is not subject to any statutory or non-statutory designations and there are no statutory or non-statutory designated sites within a 2km radius. Arun Valley SAC is located approximately 18.5km to the south-west. The survey site does not provide any supporting function for this SAC. Due to the distance of the application site, the construction and operational phases of the works are not considered likely to have any significant negative impact on Arun Valley SAC.

5.6 The site is assessed as being of value at a local level, although habitats are common and widespread, features present within the development area have potential to support widespread breeding birds, bats, badger, reptiles and great crested newt.

5.7 The wider site boundaries may also form part of the wider ecological network, providing wildlife corridors for more mobile species including bats and badgers to move through the landscape, particularly to woodland in proximity to the site to the west.

5.8 Based on the results of the PEA survey, breeding birds, bats, badger, reptiles and great crested newt pose some constraints to the proposed works.

5.9 No direct or secondary evidence of bats was recorded during the preliminary roost assessment in relation to any of the ten surveyed buildings. Overall, the buildings have limited potential to support roosting bats due to an absence of any suitable features and therefore no further emergence and activity surveys in relation to the buildings are considered necessary and works to demolish the structures can be undertaken without constraints posed by this species group. However, in order to assess current use of the proposed development area (and wider farm estate) by bats for foraging and commuting, a series of bat activity transect surveys, and concurrent static monitoring surveys, are recommended in accordance with current guidelines. The results of the surveys can then be used to devise suitable mitigation for the site.

5.10 Although the on-site pond will be retained, the presence of recent great crested newt records in the locality together a network of ponds within 250m of the site increases the potential for this species to utilise on-site terrestrial habitat throughout the development area. A targeted survey in respect to great crested newts is therefore recommended in order to ascertain presence/likely absence and distribution within the site.

5.11 Based on the habitat mosaic supported within the proposed development area, it is also recommended that a further survey in relation to reptiles is undertaken in order to ascertain presence and distribution of this species and to enable suitable mitigation to be devised.

5.12 It is considered that adopting a precautionary approach to works in respect to widespread breeding birds and badger will be sufficient to fully safeguard these species' groups.

5.13 Details regarding further survey and mitigation to include precautionary working practices, together with habitat enhancement measures are provided below.

Recommendations

<u>Bats</u>

5.14 Bats receive protection under the Conservation of Species and Habitats Directive 2017 (as amended), which affords protection to bats and the places they use for shelter and breeding.

5.15 Based on the rural location of the site together with the network of habitats supported, a series of bat activity transect surveys are recommended.

5.16 Although the wider site as a whole was considered to provide moderate-high potential for foraging bats, the potential for foraging bats is reduced somewhat within the proposed development area which is concentrated within the more developed, central area of the farm. On this basis a slight deviation from the current guidelines regarding bat transect surveys is considered appropriate and proportionate to the works.

5.17 On this basis, a single dusk activity survey should be undertaken each month from May to August inclusive together with a series of remote surveying using static detectors once a month between May to August inclusive. These surveys must be carried out in suitable weather, within the active period for bats. Guidance suggests that dusk surveys should commence at sunset and conclude approximately 2-3 hours after sunset. Current guidance also recommends that to supplement the activity surveys, remote surveying using static detectors should also be carried out. This would typically involve a single static remote detector being deployed along the transect route and left to record for a minimum of five consecutive nights in suitable weather, each month from May and August inclusive.

5.18 The results obtained from undertaking transect surveys and static monitoring through the active season will be sufficient to devise appropriate mitigation measures for the site and aid the design of any lighting scheme.

5.19 It is understood that tree removal will be restricted to a small number of trees adjacent to the south-west of the pond; between the pond and Building 8, all of which have negligible potential to support roosting bats. All remaining trees will be retained and incorporated into the scheme and, on this basis, no further bat assessments in relation to the trees are considered necessary on this basis. However if any works to trees are subsequently proposed, to include the small number of trees identified as having bat roosting potential as part of the PEA, further targeted assessments for bats in respect to the trees may be required.

Great Crested Newt

5.20 Great crested newts receive protection under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (as amended).

5.21 Potentially suitable terrestrial habitat will be directly impacted as part of the proposals. Due to the presence of an on-site pond together with a network of ponds within 250m and known recent records in the locality, a great crested newt survey should be carried out to determine presence/ likely absence and if present, the survey will enable a population assessment to be made.

5.22 Where possible, all ponds within 500m of the site should be included in the survey. The survey protocol should follow that set out in the Great Crested Newt Mitigation Guidelines (English Nature, 2001). An initial four surveys are required to demonstrate presence or absence and these must be carried out between mid-March and mid-June with two of those visits taking place within the peak survey time between mid-April and mid-May.

5.23 If great crested newts are found to be present, an additional two survey visits will then be required to allow a population size class assessment to be made, with at least one of these visits being undertaken within the peak survey time between mid-April and mid-May.

5.24 The results of the survey should then be used to inform mitigation proposals for this species. If great crested newts are found to be present in the locality following the survey, a European Protected Species Mitigation (EPSM) Licence from Natural England may be required to remove terrestrial habitat in order to facilitate the works. Once submitted, a licence application can take up to 30 days to be processed. Natural England will only grant a licence once planning permission has been received.

5.25 As part of the licence application, a Method Statement will need to be submitted to guide works in relation to this species which may include the need to undertake a formal translocation to ensure individuals are not present within the development footprint. This process will involve fencing the development area and trapping and relocating newts over a number of weeks.

5.26 The results of the surveys will be used to devise appropriate mitigation however outline measures to be incorporated into the scheme are provided below, based on the assumption that a large population of great crested newts are utilising on-site terrestrial habitats.

5.27 As a worst-case scenario, if a large population is identified during the pond surveys it will then be necessary to undertake a 90-day translocation (under licence from Natural England) in order to relocate individuals from the development footprint. This process must be undertaken in the active period for newts; between March and October.

5.28 Prior to the translocation commencing a suitable receptor area will need to be identified. Ideally this would be within retained habitats within the wider estate. The area will need to equate to at least 0.3ha and be of sufficient quality to support the translocated population. This could be achieved by adopting a relaxed grassland management regime to enable a tall grassland sward to persist.

5.29 Hibernacula and log piles should also be installed in the receptor area to provide cover and in the long-term, areas of scrub should also be manged periodically to reduce encroachment to ensure the structural diversity required by newts continues to be supported. Once the 90-day translocation has been completed, and once five clear trapping visits have been achieved, on-site habitats will be removed using an excavator. This process will be guided by the licenced ecologist and any individuals encountered will be caught and released into the receptor area.

5.30 Although no ponds will be lost as a result of development, the on-site pond has been poorly managed and is heavily shaded. This pond therefore provides opportunity for enhancement to ensure the long-term provision of potential breeding habitat post works.

Reptiles

5.31 All widespread reptiles are protected under the Wildlife and Countryside Act 1981 (as amended).

5.32 The site provides a habitat mosaic and vegetation structure suitable for reptiles therefore a reptile survey is recommended. This will entail a minimum of seven survey visits, following current guidelines (Froglife, 1999; English Nature, 2004), to determine the presence or likely absence and distribution of reptiles within the site. Reptile surveys can be undertaken in the active period for reptiles taken to run between mid-March and October. The optimum time is generally late spring, from April to mid-June and in the early autumn during September. The results of the survey will then be used to inform mitigation proposals for this species group. If reptiles are found, it may be necessary to either displace reptiles prior to ground works and demolition works or to move individuals to a receptor area as part of a formal translocation. This will involve trapping and capturing reptiles from the development area and moving them to a pre-determined receptor area in the wider estate.

Breeding Birds

5.33 Areas of scrub and trees together with a small number of buildings provide suitable nesting habitat for a range of bird species. All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).

5.34 In order to avoid any potential impact on breeding birds, the clearance of scrub and trees should be undertaken outside the main bird nesting season which runs from March to August inclusive[3], with clearance works possible between September and February.

5.35 Buildings 4, 7, 8 and 12 which are due to be demolished under the current scheme provide suitable nesting habitat for a range of bird species. Works to remove these structures should be undertaken outside the main bird nesting season which runs from March to August inclusive, with works possible between September and February. Where this is not possible then an ecologist would need to check the building(s) for active nests and signs of bird breeding activity. In the event that a nest is found, an exclusion zone around the nest would be established. Works would have to cease within this buffer area until the young birds have fledged.

[3] It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

5.36 Where this is not possible then an ecologist would need to check the vegetation for active nests and signs of bird breeding activity. In the event that a nest is found, an exclusion zone around the nest would be established. Works would have to cease within this buffer area until the young birds have fledged.

5.37 Areas of grassland and ruderal vegetation in the south of the site provide potential for ground nesting species between March to August inclusive. It is recommended that the vegetation in this area is cut to ground level prior to any ground works commencing in order to reduce the potential for nesting birds. This should be undertaken outside the nesting bird season however this process will need to be undertaken in accordance with mitigation for reptiles and great crested newt (as required based on the results of the targeted protected species surveys) and therefore clearance of this vegetation should not take place until the protected species surveys for the above species are complete.

Badger

5.38 Badgers receive protection under the Protection of Badgers Act 1992. The potential for badgers to pass through the site must be taken into account during works. Materials must be stored safely at night with lids securely fitted. If trenches are required, these must be closed over night or ramps installed to enable badgers, and other mammals, to escape. The ramps must be substantial enough for badgers to use therefore these should comprise planks of wood or similar.

Habitat Retention

5.39 All trees scheduled to be retained should be protected in accordance with British Standards (BS 2012) 5837:2012 Trees in Relation to Design, Demolition and Construction.

5.40 The pond will be retained as part of the proposals.

5.41 Suitable fencing should be installed around the perimeter of the working area to ensure materials and machinery do not encroach into adjacent retained habitats including boundary features and the pond.

Habitat Enhancement

5.42 New development offers the opportunity for biodiversity net gain in accordance with national and local planning policy.

5.43 The site has been subject to intensive farm use over a prolonged period and as a result, the grassland diversity has been reduced through enrichment and some features, including the pond and scattered trees around the site, have been subject to poor management and therefore there are a range of opportunities for ecological enhancement as part of the proposals. Recommendations are detailed below.

Post Development Landscaping

5.44 Post development landscaping should be carefully designed with biodiversity in mind in order to ensure that there is a net gain in biodiversity post works.

5.45 Wildlife planting should be integral to the soft landscape plans and should include native species and/or species of recognised wildlife value[4]. The use of nectar-rich and berry producing plants will attract a wider range of insects, birds and mammals. Trees should also be provided and can be under-planted to improve structure and cover for wildlife. Species should be carefully selected to ensure they are suitable for the area. Some species of known wildlife value are listed in Appendix E.

5.46 Good horticultural practice should be utilised, including the use of peat-free composts, mulches and soil conditioners, native plants with local provenance and avoidance of the use of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

5.47 Any newly created grassland areas should be re-seeded with an appropriate grassland seed mix for the site. There are a range of seed mixes on the market however a seed mix that supports a percentage of wildflowers could be used.

5.48 Tree and hedgerow planting could be included as part of the development; concentrated around the new building and to provide screening to the north. Tree planting will serve to replace any losses of trees adjacent to the pond as part of the development. Hedgerows could also be planted along the access road.

5.49 New hedgerows will provide an additional linear feature through the site and augment the connectivity between the site and the wider landscape for more mobile species including hedgehog, great crested newt and badger. New hedgerows should comprise at least five species, of which 30% should be native.

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[4] For example, The Royal Horticultural Society (RHS) Perfect for Pollinators Scheme https://www.rhs.org.uk/science/conservation-biodiversity/wildlife/encourage-wildlife-to-your-garden/plants-for-pollinators and the joint RHS/Wildlife Trust's Gardening with Wildlife in Mind Database http://www.joyofplants.com/wildlife/home.php

5.50 As part of any subsequent pond enhancement works (see below), the retained trees around the pond should be thinned and pruned to improve their quality and reduce shading on the pond. Additional shrub planting could also be carried out throughout this area of trees to improve structure and cover for wildlife. Species should be carefully selected to ensure they are suitable for the area.

Pond Enhancement

5.51 Development provides the opportunity to enhance the existing pond to maximise its potential for use a viable breeding pond for amphibians in the long-term.

5.52 Currently the pond is heavily shaded and is likely to have received nutrient run-off for prolonged periods when the farm was in use.

5.53 The water holding capacity of the pond could be improved through de-silting. This should be undertaken concurrently with the development works, form the southern side of the pond, to minimise repeated disturbance to the pond. This should be undertaken between November-February when amphibians are absent and when invertebrate diversity is reduced however de-silting works may need to be guided by a method statement or associated PSML, depending on the results of the great crested newt survey.

5.54 Tree management as detailed above will serve to improve light levels reaching the pond and reduce overshading.

5.55 Aquatic plants play an important role in water quality, egg-laying opportunities and also provide shelter and food for wildlife. Currently aquatic vegetation is limited. Although species will naturally colonise the pond over time once overshading has been reduced, supplementary planting should be undertaken as part of the pond enhancement works to provide egg laying opportunities.

5.56 Tall emergent vegetation should be avoided as this will shade out other vegetation and reduce plant diversity (Freshwater Habitat Trust, 2017a). When planting new plants, care should be taken to avoid species listed as invasive on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). A list of appropriate native aquatic plants is provided in Appendix E. The pond should not be stocked with fish as these will prey on amphibian eggs.

5.57 In the long-term, periodic scrub clearance around the pond margins should be undertaken to control encroachment into the water body. This should be done between September and February inclusive; outside the bird nesting period.

Pond Creation

5.58 Two new ponds will be created as part of the post development landscaping.

5.59 Construction of new ponds will provide an opportunity to increase value to wildlife and it should be designed to, amongst other things, provide conditions suitable for it to be a viable breeding pond for newts and other amphibians.

5.60 The main considerations would be timing of works, water quality, pond profile and planting scheme. The new ponds should be deeper at one end, asymmetrical in shape and this can be lined to prevent leakage e.g. using butyl sheeting.

5.61 The water within the ponds would need to be 'clean' and not degraded by pollutants such as nutrients, heavy metals or other man-made chemicals. It is advised not to place topsoil around the edges of the ponds as the run-off will cloud the water, silt up the base of the pond and add high levels of nutrients to the water column. Run-off from hard standing should also be considered as these could dramatically affect water levels and pollutants. It should be borne in mind that water levels can fluctuate dramatically throughout the year and so pollutants can become intensified during the summer months. The pond should be allowed to fill naturally with rain water and not filled from the mains supply (Freshwater Habitats Trust, 2017a).

5.62 The ponds should be designed to enable wildlife to easily enter and exit, and careful profiling is also vital for invertebrate and plant diversity. A gently sloping profile around the circumference of each pond will create habitat for invertebrates and larvae development, which require warmer water conditions created by the shallow water. A deep shelf should be avoided; this may create an island of water during the summer drying season and leave animals stranded out of water. A slope of less than 1:5 (12°) and preferably less than 1:20 (3°) is most suitable. The slope angle available will depend on the overall size and depth of the pond to be created. A depth of more than 30cm is required in order to prevent drying out and to prevent deeper water from freezing during the winter months.

5.63 The aquatic plants play an important role in water quality, egg-laying opportunities and also provide shelter and food for wildlife. The ponds should be planted with native marginal vegetation. A wildlife pond will naturally be colonised by both flora and fauna within a short period of time, however initial basic planting should be carried out when the ponds are created.

5.64 Tall emergent vegetation should be avoided as this will shade out other vegetation and reduce plant diversity (Freshwater Habitat Trust, 2017a). When planting new plants, care should be taken to avoid species listed as invasive on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). A list of appropriate native aquatic plants is provided in Appendix E. The ponds should not be stocked with fish as these will prey on amphibian eggs.

Bats and Lighting

5.65 This section provides outline advice regarding external lighting provision. More detailed guidance will be provided once the bat transect surveys have been undertaken.

5.66 Different species of bat have been found to react differently to night-time lighting however research has found that generally, all species of bats are sensitive to artificial lighting and that excessive lighting can delay bats from emerging, thus shortening the time available for foraging, as well as causing individuals to move away from suitable foraging grounds or roost sites, to alternative dark areas (Jones, 2000). Bats can also become isolated from their foraging grounds if the linear features they use for commuting are suddenly illuminated, creating a light barrier (Fure, 2006).

5.67 Currently the site receives limited light spill. Any new lighting associated with the development should seek to minimise light spill in order to avoid any additional levels of illumination post development. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management 2006, Institute of Lighting Engineers 2009):

* The level of artificial lighting including flood lighting should be kept to a minimum, with light spill limited on all boundary features;
* recent LED technology should be utilised where possible. LED lights do not emit UV radiation, towards which insects are attracted, drawing them away from bat foraging areas in the surrounding landscape. All lights should be directed at a low angle with minimal light spillage wherever possible; and
* the pond (and any newly created boundaries/linear features) should be kept dark at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g., 1.5 hours after sunset and 1.5 hours before sunrise). Therefore, where possible, if lighting is required this should be installed with the light directed down onto the public access/carpark areas wherever possible and lighting should be controlled through the use of PIR and/or timers.

Bird Boxes

5.68 A series of external bird boxes could be installed post works to include a series of tree mounted boxes, a house sparrow terrace; installed on the new building, and swallow nests within retained outbuildings. There are a range of bird boxes on the market and various types are suitable for the site. The tree mounted models selected should be suited for use by a range of birds and located at a height of at least 3m or directly under the eaves if located on a building.

Bat Boxes

5.69 Additional roosting provision should be incorporated into the scheme in order to enhance the site for bats in the long-term. More advice on the specification of bat boxes should be provided once the bat activity surveys have been undertaken.

Other

5.70 It is recommended that an update habitat survey is undertaken if more than 18 months have elapsed between the survey and the point at which any development decisions have been made at the site.

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Appendix A
Target Notes and Photographs

Target Note (TN)	Feature	Photograph of Feature
N/A	**Photograph 1:** A view north-east towards the proposed development area. Building 8 is visible in the right-hand side of the photograph.	
1, 2, 4	**Photograph 2:** A view east within the southern extent of the proposed development area towards the southern elevation of Building 8. Areas of tussock grassland and stacked spoil have potential for use by reptiles, ground nesting birds and great crested newt during their terrestrial phase.	
1	**Photograph 3:** Looking south towards Building 7. The internal supporting structure provides potential for nesting birds.	

Target Note (TN)	Feature	Photograph of Feature
1, 2, 3, 7	**Photograph 4:** A view towards the on-site pond with potential to support great crested newt. Adjacent trees, scrub and spoil provide potential for foraging and commuting bats, nesting birds and reptiles.	
N/A	**Photograph 5:** A view along the access track extending north from Bob Lane.	
N/A	**Photograph 6:** A view east within Building 1, assessed as having negligible potential to support roosting bats and nesting birds.	

Target Note (TN)	Feature	Photograph of Feature
N/A	**Photograph 7:** Looking towards Building 2, assessed as having negligible potential to support roosting bats and nesting birds.	
2, 4	**Photograph 8:** A view north towards Building 3; a series of animal shelters. No potential bat roosting features were associated with the structure. Ruderal vegetation and scrub provide potential for reptiles and sheltering great crested newt during their terrestrial phase.	
N/A	**Photograph 9:** Looking towards the western elevation of Building 4.	

Target Note (TN)	Feature	Photograph of Feature
1	**Photograph 10:** A view within Building 4. The building was subject to high light levels and did not support any potential bat roosting features although supporting beams provided some potential for use by widespread nesting birds.	
N/A	**Photograph 11:** Looking south towards Building 8.	
1	**Photograph 12:** A view within one of the rooms within Building 8. The structure did not support any potential bat roosting features although some features associated with the building had potential for use by widespread nesting birds including on top of some supporting beams and on the top of the dividing walls.	

Target Note (TN)	Feature	Photograph of Feature
6	**Photograph 13:** A mature ivy clad tree to the north of the pond with bat roosting potential. This tree will be retained.	
8	**Photograph 14:** A mammal pathway in the western site extent; outside the proposed development footprint.	
1, 2, 3, 4, 7	**Photograph 15:** Looking south towards the on-site pond. Areas of spoil, trees and scrub provide potential for reptiles, great crested newt (during their terrestrial phase), breeding birds and foraging bats.	

Appendix B
Habitat Survey Map

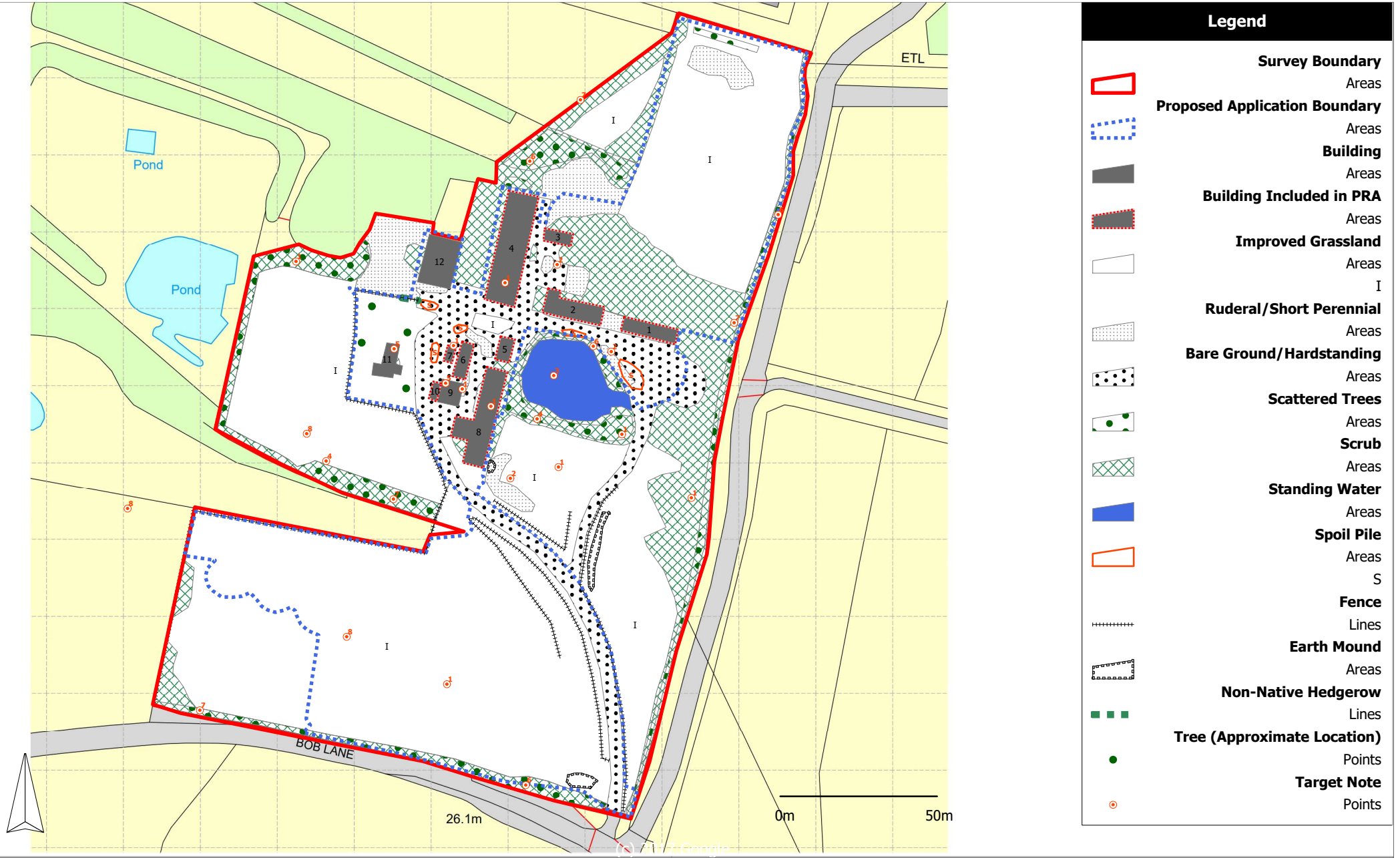

Figure 1: Twineham Court Farm Habitat Survey Map

Drawn by: CT
Date: 02/04/2024
Scale: See Map

CT Ecology

Appendix C
Legislation

LEGISLATIVE FRAMEWORK

This section contains information pertaining to the legislation and planning policy applicable in Britain. This information is not applicable to Northern Ireland, the Republic of Ireland the Isle of Man or the Channel Islands. Information contained in the following appendix is provided for guidance only.

Species

The objective of The Conservation of Habitats and Species Regulations 2017 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) is to conserve plants and animals which are considered to be rare across Europe.

The Wildlife and Countryside Act 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and also implements the obligations set out for species protection from the Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Various amendments have been made since the Wildlife & Countryside Act came into force in 1981. Further details pertaining to alterations of the Act can be found on the following website: www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

There are a number of other legislative Acts affording protection to species and habitats. These include

- Countryside and Rights of Way (CRoW) Act 2000
- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badger

Badgers and their setts are protected under the Protection of Badgers Act (1992), which consolidated and added to the previous Badger Acts of 1973 and 1991. Under this legislation it is an offence to:

- cruelly ill-treat a badger, including use of tongs and digging;
- intentionally or recklessly cause a dog to enter a badger sett;

- intentionally or recklessly damage, destroy or obstruct access to a badger sett[1] or any part thereof;
- intentionally or recklessly disturb[2] a badger when it is occupying a badger sett;
- possess or control a dead badger or any part of a badger;
- sell or offers for sale, possesses or has under his control, a live badger; and
- wilfully kill, injure, take, or attempt to kill, injure or take a badger.

A Development Licence will be required from Natural England for any development works affecting an active badger sett, or to disturb badgers while individuals are occupying the sett. Depending on the nature of the works and the specifics of the sett, badgers could be disturbed by work near the sett even if there is no direct interference or damage to the sett itself. Natural England has issued guidelines on what constitutes a licensable activity. There is no provision in law for the capture of badgers for development purposes and therefore it is not possible to obtain a licence to translocate badgers from one area to another.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and
- selling, offering or exposing for sale, possession or transporting for purpose of sale

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing of Schedule 2 species (all bats);
- deliberate disturbance of bat species as to impair their ability:
  (i) to survive, breed, or reproduce, or to rear or nurture young; and
  (ii) to hibernate or migrate.

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[1] A badger sett is defined in the legislation as "*any structure or place which displays signs indicating current use by a badger*". This includes seasonally used setts. Natural England (2009) have issued guidance on what is likely to constitute current use of a badger sett: www.naturalengland.org.uk/Images/WMLG17_tcm6-11815.pdf

[2] For guidance on what constitutes disturbance and other licensing queries, see Natural England (2007) Badgers & Development: A Guide to Best Practice and Licensing. www.naturalengland.org.uk/Images/badgers-dev-guidance_tcm6-4057.pdf, Natural England (2009) Interpretation of 'Disturbance' in relation to badgers occupying a sett www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf, Scottish Natural Heritage (2002) Badgers & Development. www.snh.org.uk/publications/online/wildlife/badgersanddevelopment/default.asp and Countryside Council for Wales (undated) Badgers: A Guide for Developers. www.ccw.gov.uk.

* deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
* damage or destruction of a breeding site or resting place; and
* keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A Protected Species Mitigation Licence (PSML) issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Breeding Birds

Under the Wildlife & Countryside Act, 1981 (as amended), a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds, however, are not included in this definition (except for limited parts of the Act). They are covered by the Games Acts, which fully protect them during the closed season.

Under the Wildlife & Countryside Act, 1981 (as amended), all birds, their nests and eggs are protected under Sections 1-8 of the Act and it is an offence, with certain exceptions, to:

* intentionally (or recklessly in Scotland) kill, injure or take any wild bird;
* intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
* intentionally take or destroy the egg of any wild bird;
* have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act;
* have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act;
* use traps or similar items to kill, injure or take wild birds;
* have in one's possession or control any bird (dead or alive) unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations; and
* in Scotland only, intentionally or recklessly obstruct or prevent any wild bird from using its nest.

Certain rare species receive additional special protection under Schedule 1 of the Act. This affords them protection against:

* intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young;

* intentional or reckless disturbance of dependent young of such a bird;
* in Scotland only, intentional or reckless disturbance whilst lekking; and
* in Scotland only, intentional or reckless harassment.

The British Trust for Ornithology (BTO) has a list of birds that are Species of Conservation Concern. These birds are not legally protected but where they are found on site they should be given planning consideration. The criteria for birds listed as amber (medium conservation concern) include:

* historical population decline during 1800-1995, but recovering: population has more than doubled over last 25 years;
* moderate (25-49%) decline in UK breeding population over last 25 years;
* moderate (25-49%) contraction of UK breeding range over last 25 years;
* moderate (25-49%) decline in UK non-breeding population over last 25 years;
* species with unfavourable conservation status in Europe (Species of conservation Concern);
* five year mean of breeding pairs in the UK;
* ≥50% of UK breeding population in 10 or fewer sites.
* ≥50% of UK non-breeding population in 10 or fewer sites;
* ≥20% of European breeding population in UK; and
* ≥20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non breeding populations in UK.

Hazel Dormouse

The hazel dormouse (*Muscardinus avellanarius*) is fully protected under The Conservation of Habitats and Species Regulations 2017 through its inclusion on Schedule 2. Regulation 41 prohibits:

* deliberate killing, injuring or capturing;
* deliberate disturbance as to impair its ability:
  (i) to survive, breed, or reproduce, or to rear or nurture young; and
  (ii) to hibernate or migrate.
* deliberate disturbance as to affect significantly the local distribution or abundance of the species;
* damage or destruction of a breeding site or resting place; and
* keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of this species.

The hazel dormouse is also currently protected under the Wildlife and Countryside Act 1981 (as amended) through its inclusion on Schedule 5. Under this Act, this species is additionally protected from:

* intentional or reckless disturbance;
* intentional or reckless obstruction of access to any place of shelter or protection; and
* selling, offering or exposing for sale, possession or transporting for purpose of sale.

A Protected Species Mitigation Licence (PSML) issued by Natural England will be required for works liable to affect dormouse breeding or resting places (N.B. this is usually taken to mean dormouse 'habitat') or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above. The licence will allow derogation from the relevant legislation but will also to enable appropriate mitigation measures to be put in place and monitored.

Herpetofauna (Reptiles and Amphibians)

The following species receive full protection under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2.

* sand lizard (*Lacerta agilis*);
* smooth snake (*Coronella austriaca);*
* natterjack toad (*Epidalea calamita);*
* great crested newt (*Triturus cristatus);* and
* pool frog (*Pelophylax lessonae).*

Under this legislation, Regulation 41 prohibits:

* deliberate killing, injuring or capturing of species listed on Schedule 2;
* deliberate disturbance of any Schedule 2 species as to impair their ability:
  (i) to survive, breed, or reproduce, or to rear or nurture young; and
  (ii) to hibernate or migrate.
* deliberate disturbance of any Schedule 2 species as to affect significantly the local distribution or abundance of the species;
* deliberate taking or destroying of the eggs of a Schedule 2 species;
* damage or destruction of a breeding site or resting place; and
* keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of a species.

With the exception of the pool frog, these species are also currently listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this Act, they are additionally protected from:

* intentional or reckless disturbance (at any level);
* intentional or reckless obstruction of access to any place of shelter or protection; and
* selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). These species include:

* adder (*Vipera berus*);
* grass snake (*Natrix natrix*);
* common lizard (*Zootoca vivipara*); and
* slow-worm (*Anguis fragilis*).

Under this legislation, for these species it is prohibited under Section 9(1) & (5) to:

* intentionally (or recklessly in Scotland) kill or injure these species
* sell, offer or expose for sale, possess or transport for purpose of sale these species, or any part thereof.

The following species are listed in respect to Section 9(5) of Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) which only affords them protection against sale, offering or exposing for sale, possession or transport for the purpose of sale:

* common frog (*Rana temporaria);*
* common toad (*Bufo bufo);*
* smooth newt (*Lissotriton vulgaris);* and
* palmate newt (*L. helveticus*).

<u>Water Vole</u>

The water vole (*Arvicola amphibius)* (=terrestris) is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

* intentionally kill, injure or take (capture) this species;
* intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
* intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection; and

* sell, offer or expose for sale, or have in his possession or transport for the purpose of sale, any live or dead water vole or part of this species.

Where development works are liable to affect habitats known to support water voles, Natural England must be consulted. All alternative design options must have been explored and communicated to Natural England in order to demonstrate that works have tried to avoid contravening the legislation e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable etc. Conservation licences for the capture and translocation of water voles may be issued by Natural England for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population.

Otter

Otters (*Lutra lutra)* are fully protected under The Conservation of Habitats and Species Regulations 2017 through their inclusion on Schedule 2. Regulation 41 prohibits:

* deliberate killing, injuring or capturing of otters
* deliberate disturbance as to impair their ability:
  (i) to survive, breed, or reproduce, or to rear or nurture young; and
  (ii) to hibernate or migrate.
* deliberate disturbance as to affect significantly the local distribution or abundance of the species;
* damage or destruction of a breeding site or resting place; and
* keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of this species.

Otters also receive protection under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

* intentional or reckless disturbance (at any level);
* intentional or reckless obstruction of access to any place of shelter or protection; and
* selling, offering or exposing for sale, possession or transporting for purpose of sale.

A Protected Species Mitigation Licence (PSML) issued by Natural England will be required for works liable to affect breeding or resting places or for activities likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above. The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Red Squirrel

The red squirrel (*Sciurus vulgaris*) is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

* intentionally (or recklessly in Scotland) kill, injure or take (capture) red squirrels;
* intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
* intentionally or recklessly disturb this species while they are occupying a structure or place used for shelter; and
* sell, offer or expose for sale, or have in his possession or transport for the purpose of sale, any live or dead red squirrel or part of this species.

White Clawed Crayfish

The white clawed crayfish (*Austropotamobius pallipes*) receives partial protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This species is protected under Sections 9(1) and 9(5), making it an offence to:

* intentionally take/capture white-clawed crayfish; and
* sell, offer or expose for sale, have in possession or transport for the purpose of sale, any live or dead white clawed crayfish or part of this species.

A conservation licence for the capture and translocation of crayfish may be issued for the purpose of development activities if it can be demonstrated that the activity has been carefully planned and this species considered. The activity must also demonstrate that it contributes to the conservation of the population.

Wild Mammals

All wild mammals are protected against intentional acts of cruelty under the Wild Mammals (Protection) Act 1996. Under this legislation it is an offence to:

* mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention of this legislation, due care and attention should be taken when carrying out works that have the potential to impact any wild mammal as described above.

Plants

Wild plants are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Some rare plant species also receive full protection under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits:

* intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only); and
* selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or parts.

In addition to the legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2017. Regulation 45 makes it an offence to:

* deliberately pick, collect or destroy a wild Schedule 5 species; and
* be in possession of, or control, transport, sell or exchange any wild live or dead Schedule 5 species or anything derived from it.

A Protected Species Mitigation Licence (PSML) issued by Natural England will be required for works liable to affect species of plant listed under The Conservation of Habitat and Species Regulations 2017.

Invasive Plant Species

Certain plants are listed on Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 14(2). Species include:

* Japanese knotweed (*Fallopia japonica):*
* giant hogweed (*Heracleum mantegazzianum);*
* Himalayan balsam (*Impatiens glandulifera);*
* certain species of rhododendron (*Rhododendron* sp.); and
* certain species of cotoneaster (*Cotoneaster* sp.).

Species listed are non-natives whose establishment or spread in the wild may be detrimental to native wildlife. Inclusion on Part II of Schedule 9 therefore makes it an offence to:

* plant or otherwise cause these species to grow in the wild.

This legislation makes it is an offence to cause species listed to grow in the wild. Therefore, if they are present on site and development activities have the potential to cause the further spread of these species to new areas, it will be necessary to ensure appropriate measures are in place to prevent this.

HABITATS

International Statutory Designations

* Special Protection Areas (SPAs): Terrestrial SPA's are afforded protection by The Conservation of habitats and Species Regulations 2017 (as amended) an offshore SPA's are afforded protection under The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).
* Special Areas of Conservation (SACs): These areas are designated under the same regulations as detailed for SPA's.
* Ramsar sites: These areas are wetlands designated under the Convention on Wetlands of International Importance (1971). Wetlands can include areas of marsh, fen, water or peatland and may be natural or artificial, permanent or temporary. Ramsar sites are underpinned through prior notification as Sites of Special Scientific Interest (SSSIs) and as such receive statutory protection under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000.

National Statutory Designations

* Sites of Special Scientific Interest (SSSIs): These sites are designated by the countryside agencies (for example Natural England) under the Wildlife & Countryside Act 1981 (as amended). Prior to 1981 these were designated under the National Parks and Access to the Countryside Act 1949. Improved mechanisms for the protection of SSSIs have also been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales).
* National Nature Reserves: These sites are also designated by the countryside agencies under the Wildlife & Countryside Act 1981 (as amended).

Local Statutory Designations

* 1949 Local Nature Reserves (LNRs): These sites are designated by local authorities under the National Parks and Access to the Countryside Act 1949. These are sites recognised for their wildlife or geological interest at a local level and are managed for nature conservation.

Non-Statutory Designations

* Local Wildlife Sites: Areas of local conservation interest may be designated by local authorities. The terminology for these sites varies depending on the county. They can be called Sites of Nature Conservation Importance (SNCI's), Sites of Importance for Nature Conservation (SINCs), County Wildlife Sites (CWS), Listed Wildlife Sites (LWS), Local Nature Conservation Sites (LNCS), Sites of Biological Importance (SBIs). The designation criteria may vary between counties. Local Wildlife Sites are of material consideration when planning applications are being determined.
* The Hedgerow Regulations 1997: These have been compiled to protect 'important' countryside hedgerows from damage or removal. A hedgerow is considered important if (a) has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations. Under the Regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. Hedgerows covered by these regulations include those on or adjacent to common land, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys.

National Planning Policy

The National Planning Policy Framework (2021) replaces the former NPPF and PPS9 documents and emphasises the need for sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and priority species. An emphasis is also made for the need for ecological networks through preservation, restoration and re-creation. The protection and recovery of priority species is also included as a requirement of planning policy. In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; appropriate mitigation or compensation measures are in place where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

Regional and Local Planning Policy

The Mid Sussex District Plan 2014-2031 and the Mid Sussex Local Plan 2004 (saved policies) contain the following Nature Conservation Policies that are relevant to the site.

Mid Sussex District Plan 2014-2031

* DP37: Trees, Woodland and Hedgerows

'The District Council will support the protection and enhancement of trees, woodland and hedgerows, and encourage new planting. In particular, ancient woodland and aged or veteran trees will be protected. Development that will damage or lead to the loss of trees, woodland or hedgerows that contribute, either individually or as part of a group, to the visual amenity value or character of an area, and/ or that have landscape, historic or wildlife importance, will not normally be permitted. Proposals for new trees, woodland and hedgerows should be of suitable species, usually native, and where required for visual, noise or light screening purposes, trees, woodland and hedgerows should be of a size and species that will achieve this purpose.

Trees, woodland and hedgerows will be protected and enhanced by ensuring development:

- *incorporates existing important trees, woodland and hedgerows into the design of new development and its landscape scheme;*
- *prevents damage to root systems and takes account of expected future growth;*
- *where possible, incorporates retained trees, woodland and hedgerows within public open space rather than private space to safeguard their long-term management;*
- *has appropriate protection measures throughout the development process;*
- *takes opportunities to plant new trees, woodland and hedgerows within the new development to enhance on-site green infrastructure and increase resilience to the effects of climate change;*
- *does not sever ecological corridors created by these assets.*

Proposals for works to trees will be considered taking into account:

- *the condition and health of the trees;*
- *the contribution of the trees to the character and visual amenity of the local area;*
- *the amenity and nature conservation value of the trees;*
- *the extent and impact of the works; and*
- *any replanting proposals.*

The felling of protected trees will only be permitted if there is no appropriate alternative. Where a protected tree or group of trees is felled, a replacement tree or group of trees, on a minimum of a 1:1 basis and of an appropriate size and type, will normally be required. The replanting should take place as close to the felled tree or trees as possible having regard to the proximity of adjacent properties.

Development should be positioned as far as possible from ancient woodland with a minimum buffer of 15 metres maintained between ancient woodland and the development boundary.'

- DP38: Biodiversity

'Biodiversity will be protected and enhanced by ensuring development:

- *Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments; and*
- *Protects existing biodiversity, so that there is no net loss of biodiversity. Appropriate measures should be taken to avoid and reduce disturbance to sensitive habitats and species. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances); and*
- *Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience; and*
- *Promotes the restoration, management and expansion of priority habitats in the District; and*
- *Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty; and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas, and Nature Improvement Areas.*

Designated sites will be given protection and appropriate weight according to their importance and the contribution they make to wider ecological networks.

Valued soils will be protected and enhanced, including the best and most versatile agricultural land, and development should not contribute to unacceptable levels of soil pollution.'

Local Plan- Saved Policies

- C6

'Development resulting in the loss of woodlands, hedgerows and trees which are important in the landscape, or as natural habitats, or historically, will be resisted.'

Regional and Local BAPs

Many local authorities in the UK have produced a local Biodiversity Action Plan (LBAP) at the County or District level. The Sussex Biodiversity Action Plan is based on the UK list of Species and Habitats of Principal Importance and contains 1,149 species and 65 habitats.

Appendix D
Plant Species List

Scientific nomenclature follows Stace (2010) for vascular plant species and British Bryological Society (BBS) Special Volume No. 5 *English Names for British* Bryophytes for bryophyte species. Vascular plant common names follow the Botanical Society of the British Isles 2003 list, published on its web site, www.bsbi.org.uk. The plant species list was generated as part of a Phase 1 Habitat survey and does not constitute a full botanical survey.

Abundance was estimated using the DAFOR scale as follows:

D = dominant, A = abundant, F = frequent, O = occasional, R = rare.

Key to qualifiers: c=clumped, e=edge only, g=garden origin, p=planted, y = young, s=seedling or sucker, t=tree, h=hedge, w=water. L = locally i.e. LD=locally dominant.

COMMON NAME	SCIENTIFIC NAME	ABUNDANCE	QUALIFIER
Alder	*Alnus glutinosa*	F	LD, T
Blackthorn	*Prunus spinosa*	A	LD, T
Bramble	*Rubus fruticosus agg.*	D	LD
Bristly oxtongue	*Picris echioides*	R	
Broad-leaved dock	*Rumex obtusifolius*	O	
Capillary thread moss	*Bryum capillare*	O	C
Cock's-foot	*Dactylis glomerata*	D	
Common field-speedwell	*Veronica persica*	O	
Common nettle	*Urtica dioica*	F	LA, C
Crane's-bill	*Geranium sp.*	O	
Creeping buttercup	*Ranunculus repens*	O	
Cut-leaved crane's-bill	*Geranium dissectum*	O	
Daisy	*Bellis perennis*	O	
Dock	*Rumex sp.*	O	LF
Dove's-foot crane's-bill	*Geranium molle*	O	
Elder	*Sambucus nigra*	O	LF, T
Field mouse-ear	*Cerastium arvense*	R	
Germander speedwell	*Veronica chamaedrys*	O	
Green alkanet	*Pentaglottis sempervirens*	R	

Gum	*Eucalyptus sp*	R	T
Hazel	*Corylus avellana*	O	LF
Italian lords-and-ladies	*Arum italicum*	R	C
Ivy	*Hedera helix*	F	C
Knapweed	*Centaurea sp.*	O	
Leyland cypress	*Cupressocyparis leylandii*	O	H
Moss	*Brachythecuim rutabulum*	O	C
Oak	*Quercus sp.*	O	T
Pedunculate oak	*Quercus robur*	O	T
Pendulous sedge	*Carex pendula*	R	C
Perennial rye-grass	*Lolium perenne*	A	
Ragwort	*Senecio sp.*	O	
Silver birch	*Betula pendula*	O	
Soft-rush	*Juncus effusus*	R	C
Spear thistle	*Cirsium vulgare*	O	C
Speedwell	*Veronica sp.*	O	
Thistle	*Cirsium sp.*	O	C
Toothed medick	*Medicago polymorpha*	R	
Wild cherry	*Prunus avium*	O	T
Yorkshire-fog	*Holcus lanatus*	D	

Appendix E
Suggested Compensatory Planting

This section provides a list of plants which are of proven value to wildlife. The list is not exhaustive and merely provides a guide for suggested planting for wildlife value. Planting should be tailored on a site by site basis. The list includes some native and ornamental species however the emphasis should always be on the use of predominantly native species.

N = Native, NN = Non-native.

This list includes species that may be harmful if handled or ingested. Schedule 9 (Part 2) of the Wildlife and Countryside Act, 1981 (as amended) includes a list of invasive plants, including aquatic species, that should always be avoided in planting schemes.

Large Shrubs

Hedge veronica/Hebe (*Veronica* spp.) NN

Hawthorn (*Crataegus monogyna*) N

Blackthorn (*Prunus spinosa*) N

Rose: dog rose (*Rosa canina*), field rose (*R. arvensis*), burnet rose (R. *pimpinellifolia*) N

California lilac (*Ceanothus* spp.), (*C. arborea*) NN

Wild privet (*Ligustrum vulgare*) N

Common holly (*Ilex aquifolium*) N

Barberry (*Berberis* spp.) (*B. darwinii*), (*B. thunbergii*), (*B. x stenophylla*) NN

Daisy Bush (*Olearia* spp.), (*O. x hastii*), (*O. macrodonta*) and (*O. traversii*) NN

Firethorn (*Pyracantha coccinea*) NN

Hazel (*Corylus avellana*) N (*C. maxima*) NN

Viburnum (*Viburnum* spp.), wayfaring tree (*V. lantana*) N, guelder rose (*V. opulus*) N, laurustinus (*V. tinus*) E Note: V. lantana can become invasive in more open habitats.

Butterfly bush (*Buddleja* spp.), (*B. alternifolia*), (*B. globosa*) NN

Dogwood (*Cornus sanguinea*) N

Broom (*Cytisus scoparius*) N

Escallonia (*Escallonia macrantha*) NN

Hardy fuchsia (*Fuchsia magellanica*) NN

Buckthorn (*Rhamnus cathartica*) N

Spindle (*Euonymus europaeus*) N

Tutsan (*Hypericum androsaemum*) N

Yew (*Taxus baccata*) N

Trees

Cherry (*Prunus* spp.), wild cherry (*P. avium*), bird cherry (*P. padus*), domestic plum (*P. domestica*) N or cherry plum (*P. cerasifera*) NN

Apple (*Malus* spp.), edible apple (*M. domestica*), crab apple (*M. sylvestris*) N

Pear (*Pyrus* spp.), edible pear (*P. communis*) NN

Small-leaved lime (*Tilia cordata*) N

Silver birch (*Betula pendula*) N

Yew (*Taxus baccata*) N

Black poplar (*Populus nigra*) N

Foxglove tree (*Paulownia tomentosa*) NN

Beech (*Fagus sylvatica*) N

Climbers

Jasmine (*Jasminum* spp.), summer jasmine (*J. officinale*), winter jasmine (*J. nodiflorum*) NN

Ivy (*Hedera helix*) N

Climbing hydrangea (*Hydrangea anomala* ssp. *petiolaris*) NN

Honeysuckle (*Lonicera* spp.) (*L. periclymenum*) N

Clematis (*Clematis* spp.) NN

Hop (*Humulus lupulus*) N

Firethorn (*Pyracantha atalantioides*) NN

Nasturtium (*Tropaeolum majus*) NN

Bulbs

English bluebell (*Hyacinthoides non-scripta*) N

Squill species (*Scilla* spp.) N/NN

Snowdrop (*Galanthus nivalis*) N

Winter aconite (*Eranthis hyemalis*) E

Crocus species (*Crocus* spp.) NN

Wild Daffodil (*Narcissus pseudonarcissus*) N

Onion species (*Allium* spp.) N/NN. N.B. *Allium triquetrum* (three cornered leek) and *Allium paradoxum* (few-flowered leek) are Schedule 9 invasive plant species.

Wood anemone (*Anemone nemorosa*) N

Lesser celandine (*Ficaria verna*) N

Submerged Aquatics (acting as oxygenators)

Water crowfoot (*Ranunculus aquatilis) N*

Spiked water milfoil (*Myriophyllum spicatum)* N

Water starwort (*Callitriche stagnalis)* N

Rigid hornwort (*Ceratophyllum demersum)* N

Curly pondweed (*Potamogeton crispus)* N

Floating Aquatics

Yellow water lily (*Nuphar lutea)* (can require control) N

White water lily (*Nymphaea alba)* (can require control) N

Bog-bean (*Menyanthes trifoliata)* N

Amphibious bistort (*Polygonum amphibia)* N

Marginal

Yellow iris (*Iris pseudacorus)* N

Water mint (*Mentha aquatica)* N

Water plantain (*Alisma plantago-aquatica)* N

Arrowhead (*Sagittaria sagittifolia)* N

Water forget-me-not (*Myosotis scorpioides)* N

Lesser reedmace (*Typha angustifolia)* N

Flowering rush (*Butomus umbellatus)* N

Branched bur-reed (*Sparganium erectum)* N

Purple loosestrife (*Lythrum salicaria)* N

Floating sweet-grass (*Glyceria fluitans)* N

Reed sweet-grass (*Glyceria maxima)* N