

18 Mill Lane, Wick, Littlehampton, West Sussex, BN17 7QY

Ecological Appraisal Report

April 2014

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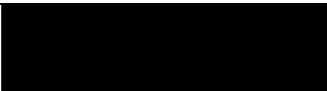
Ecological Assessment Report

18 Mill Lane, Wick, Littlehampton, West Sussex, BN17 7QY

for

Burton Property

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This report represents sound industry practice; reports and recommends correctly, truthfully and objectively; is appropriate given the local site conditions; scope of works proposed and resources allocated to us by the client; and avoids invalid, biased, and exaggerated statements.

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EXECUTIVE SUMMARY

1. This report provides information from an ecological appraisal carried out by Hampshire Ecological Services Ltd for Burton Property in connection with a proposal to build new dwellings on the site at 18 Mill Lane, Wick, Littlehampton, West Sussex (approximate Ordnance Survey Grid Reference TQ029039). The site location is shown in *Figures 1* and *2*; and a site plan is given in *Figure 3* (see *Section 6*).
2. The site had an ecological assessment carried out in 2010 by Hampshire Ecological Services Ltd. However an up-to-date survey was required by planning to assess any changes on the site. The results of the previous survey are detailed in *18 Mill Lane, Wick, Littlehampton, West Sussex, BN17 7QY: Ecological Survey Report* (2010). This was carried out on the 24th February 2014 by Victoria Russell MCIEEM and Kirsty Pearman BSc GradCIEEM.
3. The site consists of lawn with ornamental planting around the edges and through the centre of the site. Locally the ornamental bushes have become smothered with *Rubus fruticosus* agg. (Bramble). There are also three sheds with concrete hardstanding adjacent to two. There is a hedge on the southern boundary and a fence on the north boundary. During the survey in 2010, the adjacent bungalow (Number 18) and garage were within the site boundary. These have both been retained and not part of the development site. A fence divides the site from the adjacent property (Number 18). The habitats are shown in the Phase 1 Habitat Map given in *Figure 4* (see *Section 6*) with species lists in *Appendix B*.
4. No plant species listed on *Schedules 8* or *9* of the *Wildlife and Countryside Act 1981* (as amended) were recorded on the site.
5. There are three sheds that are due to be removed from the site. The first is constructed from breeze-blocks with a sloping corrugated roof. The second is a small metal garden shed with a pitched metal roof. The third is a small collapsed wooden garden shed with a pitched roof covered with roofing felt. Due to their construction and lack of roosting opportunities, it is unlikely these buildings would be used by roosting bats. All of the buildings have negligible bat roost potential.
6. Foraging habitat for bats on site is rather limited. However it is likely that bats are using the hedge on the boundary for foraging and/or commuting. Retaining and enhancing connectivity (hedges) along the edges of the site will help minimise potential impact to bat populations in the local area. Especially the southern boundary which provides a link to hedges that in turn connects to areas of higher quality foraging habitat in the wider countryside.
7. Changes in lighting can also affect roosting bats. Ideally, light levels in the new development should not exceed the existing levels. In addition, there should be no lighting directed onto any retained vegetation, especially the hedge.

8. No badger setts or evidence of badger activity was found.
9. The removal of any vegetation with the potential to support nesting birds should be undertaken outside the bird breeding season (*late February to August inclusive*) to avoid destruction of active bird nests and hence comply with the law (*Wildlife and Countryside Act 1981*).
10. In 2010 the site consisted of short amenity grassland which was unsuitable for reptiles due to the lack of cover and foraging. However, the visit on the 24th February 2014 found the grassland had become longer and slightly tussocky (particularly at the eastern end) and as such provided potential foraging habitat for low numbers of widespread species of reptile such as slow-worm (see *Photos 1-4 in Section 7*). There is also a small amount of nettlebed vegetation that could be used as foraging habitat for reptiles (see *Photos 6-8 in Section 7*). The hedge is also suitable hibernation habitat. In addition, there is a pile of rubble in the centre of the north part (see *Photo 14*) and compost heap in the centre of the southern boundary (see *Photo 15*). These are located at *Target Notes 1 & 2*, respectively, on the Phase 1 Habitat Survey Map on *Figure 4 in Section 6*. These areas provide some foraging and hibernation habitat for reptiles (see *Photo 14*). However, as the suitable habitat is relatively recent, it is expected only low numbers (<10) of slow-worms, if any, are present on the site.
11. As a precautionary approach, works to render habitat unsuitable for reptiles and the removal of piles of rubble and garden waste should be supervised by an ecologist so that no reptiles are harmed. Any found should be captured and removed to a safe area in the east corner of the site (shown in *Figure 5 in Section 6*). This area should be fenced with reptile fencing to separate it from the area of works.
12. As the east corner of the site is sub-optimal for reptiles, turf should be cut from elsewhere on the site and moved into this area. This should be allowed to become established prior to any reptiles being translocated into this area. Any natural refugia (*e.g.* rubble and wood piles, compost heaps and garden rubbish) should be removed by hand. Topsoil stripping should be undertaken as the final stage and should also be supervised by an ecologist. As low numbers (if any) of reptiles are expected, if more than 10 slow-worms are found (or the presence of any other reptile species found), works will be suspended until a suitable mitigation and compensation strategy can be devised with the approval of the LPA.
13. The hedge and adjacent ornamental shrubs and *Rubus fruticosus* agg. (Bramble) is suitable habitat for dormouse. Dormice are known to utilise such areas where other more typical food species is less abundant. However, the site is within a residential/ commercial area with roads surrounding the connecting gardens and a railway line to the south. In addition, the hedgerows edging the adjacent field to the south-east are isolated by the surrounding commercial buildings and the railway line to the south. As such, it is unlikely that dormice are present.
14. Heras fencing or similar should be used to protect the roots of the retained hedgerow during construction. Dust sheets or similar protective covers should be attached to the fencing to protect from dust generated during construction. The guidance provided in BS 5837 *Trees in*

relation to Construction provides further advice on minimising the impact to retained trees on a development site

15. There are no statutory designated sites within 2km of this site. There are three areas of semi-natural woodland and ancient replanted woodland within 2km of the site. None of the connectivity to these areas will be affected by this small-scale development.
16. National Planning Policy Framework (NPPF 2012) states "*opportunities to incorporate biodiversity in and around developments should be encouraged*" as part of the consideration for "*presumption in favour of sustainable development*". Therefore, the following outline enhancements are proposed as a minimum:
 - Any new hedgerows or plantings on the development should consist of a mixture of native species similar to those already on site. This will ensure suitable habitat for wildlife remains on site.
 - External lighting should not be installed near to or directed onto retained vegetation or the adjacent building to the east of the site so that light disturbance is not a problem for bats.
 - Bird boxes will be erected in various locations within the development site. The boxes will consist of a mixture of typical garden single chamber bird boxes (*e.g.* for blue and great tits) fixed to a tree at a height of 2-4m, and open-fronted boxes (*e.g.* for robins and wrens) at a lower height and concealed among the foliage of shrubs. At least one will be a multi-chamber box suitable for house sparrows.
17. If more than 12 months elapses after completion of all surveys, it may be advisable to conduct further survey work to obtain up-to-date information prior to commencement of construction to ensure protected species compliance.

INTRODUCTION

2.1 Purpose of this report

This report presents the results of an ecological appraisal carried out by Hampshire Ecological Services Ltd for Burton Property in connection with a proposal to build three new dwellings at 18 Mill Lane, Wick, Littlehampton, West Sussex (approximate Ordnance Survey Grid Reference TQ029039).

The site had already had an ecological assessment carried out in 2010 by Hampshire Ecological Services Ltd, however an up-to-date survey was required by planning to assess any changes on the site. The results of the previous survey are detailed in *18 Mill Lane, Wick, Littlehampton, West Sussex, BN17 7QY: Ecological Survey Report (2010)*.

2.2 Ecological context

The site is the garden of Number 18 Mill Lane. It is primarily lawn with flowerbeds and ornamental planting, mainly around the edges. There is a hedge along the southern boundary. The north and west boundaries are fenced. Within the site there are three sheds and an area of concrete hardstanding adjacent to two of them.

During the survey in 2010, the adjacent bungalow and garage were within the site boundary. These have both been retained and not part of the development site. A fence divides the site from the adjacent property.

The site lies to the north of Wick in a residential area. To the north and east, the site is surrounded by residential properties. To the south-east is a field which lies adjacent to a railway line running east-west. Since the survey in 2010, the field to the south-west of the site now has a new housing development built on it. To the east there is a nursery. The area surrounding the site is a mixture of residential and industrial with the coastline to the south.

2.3 Proposed activities

The surveys were carried out in connection with a proposal to build new dwellings on the site.

2.4 Current planning status

Planning permission is being applied for.

2.5 Structure of this report

This report is structured as follows:

- *Section 1* contains the executive summary;
- *Section 2* contains an introduction;

- *Section 3* describes the survey methods;
- *Section 4* describes the results;
- *Section 5* evaluates the findings;
- *Section 6* contains the figures including:
 - *Figure 1* gives aerial photographs showing the site location;
 - *Figure 2* gives an Ordnance Survey map showing the location of the site;
 - *Figure 3* gives a site plan;
 - *Figure 4* gives a Phase 1 Habitat map for the site; and
 - *Figure 5* gives the proposed site plan showing the location of the reptile receptor site.
- *Section 7* gives photographs of the site;
- *Section 8* lists the references;
- *Appendix A* lists key legislation and regulations; and
- *Appendix B* lists plant species recorded on site.

METHODS

3.1 Desk study

The *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk) was used to search for designated sites on or adjacent to the site including Local Nature Reserves (LNRs), National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. The search area was 500m for LNRs, NNRs and SSSIs and 2km for SACs, SPAs and Ramsar sites.

The Sussex Biodiversity Record Centre (SxBRC) has not been approached for records in relation to this site.

3.2 Field survey

3.2.1 General

An ecological assessment was carried out on this site. This type of survey is not designed to prove presence or absence of significant or protected species; it is used to highlight habitat that is suitable and to identify where further work to show presence or absence is required. However, in some circumstances species can be ruled out because there is unsuitable habitat or barriers to inward migration.

Significant species were defined as follows:

- European Protected Species (listed on *Schedules 2 and 5 of the Conservation of Habitats & Species (Amendment) Regulations 2012*;
- nationally protected species under *Schedules 1, 5 and 8 of the Wildlife & Countryside Act 1981*, the *Protection of Badgers Act 1992* (as amended) and the *Deer Act 1991*;
- non-native pest species listed on *Schedule 9 of the Wildlife & Countryside Act 1981* (as amended);
- species listed as Critically Endangered, Endangered or Vulnerable on the *IUCN Red List*
- all species listed on the *RSPB Birds of Conservation Concern 2002-2007* as Red or Amber; and
- Nationally Rare or Nationally Scarce species.

3.2.2 Date(s), times and weather

An ecological assessment was carried out during the daytime on the 27th September 2010. The weather was mild and sunny during this survey.

A site visit to assess any changes on the site and update the report was carried out during the daytime on the 24th February 2014. The weather was cold and sunny.

3.2.3 *Personnel*

The surveys in 2010 and 2014 were both carried out by Victoria Russell MCIEEM who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). She has over 15 years experience in ecological consultancy and is a highly competent ecologist trained in Phase 1 Habitat Survey and National Vegetation Classification techniques and protected species surveys (including botanical expertise in *Schedule 9* species). During the survey in 2014 she was assisted by a second ecologist Kirsty Pearman BSc Grad CIEEM.

All staff adhere to the Chartered Institute of Ecology and Environmental Management's *Code of Professional Conduct*.

3.2.4 *Botanical surveys - Phase 1 Habitat Survey*

The botanical surveys in this report are based on the Phase 1 Habitat Survey methodology (Joint Nature Conservation Committee 2003) and involve the following elements: habitat mapping using a set of standard colour codes to indicate habitat types on a Phase 1 Habitat Map; and descriptions of habitats and features of ecological or nature conservation interest relating to locations on the Phase 1 Habitat Map.

Basic Phase 1 Habitat Survey methods are described in detail in Joint Nature Conservation Committee (JNCC, 2003). Limits to the method are discussed in Cherrill & McClean (1999).

Plant species lists were compiled for the various habitat types on the site. Subjective estimates of the relative abundance of species were added to the plant species list using a modified DAFOR scale. The DAFOR scale ranks species according to their relative abundance in a given parcel of land as follows: d – dominant, a – abundant, f – frequent, o – occasional, r – rare. In addition, the following prefix is used: l – locally, v – very. The terms ‘abundant’ and ‘rare’ are used by convention, and apply only to relative-abundance within the recorded area. It does not mean that species are ‘rare’ in the general sense.

Plant nomenclature in this report follows Poland & Clement (2009) for native, naturalised and garden species of vascular plant. Plant names in the text are given with scientific names first, followed by the English name in brackets. Uncertain identifications are preceded by ‘cf.’ placed before the specific epithet where the plant is very probably the species indicated, but it is impossible to distinguish it from similar members of the genus with certainty.

February is a sub-optimal time of year for general botanical recording, though it is always unrealistic to suppose that surveys can generate exhaustive species lists at any time of year.

3.2.5 *Animal surveys*

General

The habitat was assessed to determine whether or not it is suitable for those protected vertebrates that occur in the region. Initial surveys do not usually confirm species presence or absence, but

obvious signs and incidental sightings of protected species would have been noted had they been encountered.

An assessment was made of the likelihood of protected vertebrates using the site. Taking into consideration the geographical region and habitat type, species and groups that might be encountered are:

- bats;
- badger;
- dormice;
- nesting birds; and
- reptiles.

According to aerial photographs (GoogleEarth™) and online Ordnance Survey 1:25,000 maps, there are no ponds or watercourses on or within 500m of the site and therefore great crested newt, otter and water vole are not considered further.

Details of initial survey methods for each of the relevant species that might have been encountered are given below and an overview of the legal protection of the species and groups is provided in *Appendix A*.

Bats

Survey for bats concentrated on identifying foraging opportunities and potential roost locations or hibernation sites.

Because bats are crevice-dwelling mammals it is often difficult to thoroughly inspect buildings for bats and evidence of bats without a destructive search, which is not generally practical or acceptable. Examples are where bats roost between the roofing felt and tiles or slates, around window frames and behind barge boards. These areas cannot be inspected, but a surveyor would know that bats might roost here because there are places where bats could gain entry. A pipistrelle bat is small enough to fit into a match box and can roost in gaps just 14-20mm wide.

The buildings were assessed for their bat roost potential according to the following factors that influence the likelihood of bat roosting.

- Surrounding habitat: whether there are potential flight-lines and bat foraging areas nearby.
- Construction detail: the type and construction of architectural features such as attics, barge boards, soffit boxes, lead-flashing, cavity walls and hanging tiles that could be used by roosting bats. Some construction details and materials are more favourable to bat occupation than others.
- Building condition: whether the building has no roof or has a sound roof without any potential bat access points.
- Internal conditions: bats favour sheltered locations with a stable temperature regime, protection from the elements and little wind/light/rain penetration.
- Potential bat access points: whether there is flight and crawl access.

- Potential roosting locations: the presence of bat-accessible voids, cracks and crevices.

The risk of bat roosts being present will be lower where structures have.

- Urban setting with little greenspace.
- Heavy disturbance.
- Small, cluttered roof void (particularly for brown long-eared).
- Modern construction with few gaps or crevices that bats can fly or crawl through (although pipistrelles may still be present).
- Prefabricated of steel or sheet materials.
- Active industrial premises.

The above list provides generic criteria and there are exceptions to consider. For example, pipistrelle roost sites are often found in modern housing estates and therefore the absence of bats from such locations should not always be assumed.

The buildings were assessed for their suitability to support roosting bats using the following access and inspection equipment: high-quality 10x42 binoculars; a 1,000,000 candlepower Clulight™ CB2 (x2) torch; an LED pen torch, a ProVision100™ fiberscope with a 45cm optic cable; and a 3.8m surveyors ladder. Binoculars were employed to view higher areas such as potential access points on the outside of the building. A description of the buildings was recorded on a survey sheet, and digital photographs were taken as a permanent record.

Visual, systematic examinations of the buildings were made for bats and evidence of bats, both internally and externally, of the following:

- roof beams, especially the top of ridge;
- cracks, crevices and sheltered voids;
- the floors and stored items;
- external features such as barge boards;
- roof slopes and the ridge;
- wall, window and door surfaces;
- window and door frames; and
- wall bases.

Evidence of roosting bats includes droppings, feeding remains and dead bats, but also staining from urine and fur-oils, scratch marks, odour, the presence of bat-fly (Nycteribiid) pupal cases, and in some cases the absence of cobwebs.

Bat droppings can prove beyond doubt that bats use a building and can help to identify roosting locations because piles often accumulate beneath roosting sites or entrance points. The location, size, shape, texture and colour of the droppings can be used to aid species identification. DNA analysis of droppings is also possible and samples will be taken where necessary. The number and condition (age) of droppings can indicate the size of the roost and when it was last used.

Bats use a variety of habitats for foraging, in particular hedge-lines, woods and water bodies, and roost in a range of structures including buildings, trees, bridges and caves. Areas that could be used for foraging were noted.

Dormouse

The site was assessed for habitat with the potential to support dormouse. Habitats typically suitable for dormouse include:

- deciduous woodland, with a dense understory, species-rich shrub layer and thick ground cover;
- continuous, thick, wide hedgerows over 4m high with connections to nearby suitable woodland;
- hazel or sweet chestnut coppice; or
- thick continuous areas of scrub, particularly bramble, close to hedgerows or woodlands.

Badger

An initial assessment was carried out to identify areas that might be used by badger (*Meles meles*) for commuting, foraging and sett-building within at least 30m of all areas potentially affected by works (where access was possible). Evidence of badgers including setts, latrines, feeding signs and paths were searched for.

Birds

Habitat that might be used by nesting birds was identified. Different bird species use buildings, trees and shrubs, undergrowth or even open fields to nest. Suitability of the site for use by a range of bird species was considered giving consideration to factors such as cover, food, disturbance and other habitat requirements.

Widespread species of reptiles

The site was assessed for widespread species of reptiles, with particular attention paid to those features that could be used as basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of hardcore) and opportunities for foraging (rough grassland and scrub). The site was assessed for its suitability for each of the four widespread reptile species which have broadly similar habitat requirements. However, more specific requirements include the following (Beebee & Griffiths 2000):

- common lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to walls and pastures, although one of their favoured habitats is rough grassland;
- slow-worms (*Anguis fragilis*) use similar habitats to common lizards, and are often found in rank grassland, gardens and derelict land;
- grass snakes (*Natrix natrix*) have broadly similar requirements to common lizards with a greater reliance on ponds and wetlands, where they prey on common frogs;
- adders (*Vipera berus*) use a range of fairly open habitats with some cover, but are most often found in dry heath.

Reptile activity is highly seasonal; they hibernate over the winter (October to March) and are active over the summer months. They become increasingly active as temperatures increase in spring, and in most years they are fully active by mid-April. Reproduction varies between species, but generally peaks in mid-summer when reptiles are at their most active. In late September/ October, activity begins to decrease as reptiles seek frost-free refuges for hibernation.

RESULTS

4.1 Desk study

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there are no SPA's, SAC's or Ramsar sites within 2km of the site. There are three areas of unnamed ancient and semi-natural woodland within 2km on the edge of the search boundary to the north-east of the site.

4.2 Habitats and plant species

4.2.1 Habitats

The majority of the site is tussocky amenity grassland with ornamental planting (flowerbeds and shrubs) around the edges and through the centre of the site. Locally the ornamental bushes have become smothered with *Rubus fruticosus* agg. (Bramble).. There is an overgrown hedge along the southern boundary of the site.

The amenity grassland to the west is shorter with a sward dominated by *Lolium perenne* (Perennial Rye-grass) with *Agrostis stolonifera* (Creeping Bent) and *Poa annua* (Annual Meadow-grass) together with common forbs such as *Bellis perennis* (Daisy), *Plantago lanceolata* (Ribwort Plantain), *Ranunculus repens* (Creeping Buttercup) and *Taraxacum* sect. *Ruderalia* (Dandelion)

To the east the lawn is more tussocky and here *Holcus lanatus* (Yorkshire-fog) dominates with *Lolium perenne* (Perennial Rye-grass). There is also more *Dactylis glomerata* (Cock's-foot) and some tall ruderals such as *Picris echioides* (Bristly Oxtongue) and *Rumex obtusifolius* (Broad-leaved Dock).

There is a small patch of nettlebed vegetation on the southern boundary of the site associated with piles of garden rubbish. This is dominated by *Urtica dioica* (Common Nettle) with some *Galium aparine* (Cleavers), *Glechoma hederacea* (Ground-ivy) and *Stachys sylvatica* (Hedge Woundwort). The evergreen creeper *Hedera helix* (Ivy) is strongly dominant beneath the *Urtica dioica* (Common Nettle) immediately adjacent to the hedge.

In 2010 in the eastern corner there was a small patch of low-growing *Rubus fruticosus* agg. (Bramble) scrub with tall semi-ruderals such as *Ballota nigra* (Black Horehound), *Cirsium vulgare* (Spear Thistle), *Conyza sumatrensis* (Guernsey Fleabane), *Epilobium hirsutum* (Great Willowherb), *Lamium album* (White Dead-nettle), *Rumex obtusifolius* (Broad-leaved Dock), *Senecio jacobaea* (Common Ragwort), *Stachys sylvatica* (Hedge Woundwort) and *Urtica dioica* (Common Nettle). This vegetation has been cut and colonised by grass species, although many of the tall semi-ruderals remain.

The hedge is a mixture of *Crataegus monogyna* (Hawthorn) and *Prunus spinosa* (Blackthorn) with *Ilex aquifolium* (Holly) and small amounts of *Rubus fruticosus* agg. (Bramble) and *Sambucus nigra*

(Elder). Beneath the hedge it is dominated by *Hedera helix* (Ivy) with woodland and shade-tolerant herbs such as *Arum maculatum* (Lords-and-Ladies), *Dryopteris filix-mas* (Male-fern), *Galium aparine* (Cleavers) and *Urtica dioica* (Common Nettle).

A Phase 1 Habitat Map showing the location of the various habitats is given in *Figure 4* (see *Section 6*) with species lists in *Appendix B*.

4.2.2 Plant species

No plant species listed on *Schedules 8 or 9* of the *Wildlife and Countryside Act 1981* (as amended) were recorded on the site.

All plant species recorded from each habitat type (along with relative abundance) are tabulated in *Appendix B*.

4.3 Protected vertebrates

4.3.1 Bats

Bat roost potential of building

Three sheds are due to be removed from the site. The first is constructed from breeze-blocks with a sloping corrugated roof. The second is a small metal garden shed with a pitched metal roof. The third is a small collapsed wooden garden shed with a pitched roof covered with roofing felt.

The construction details of the buildings are summarised in *Table 4.3.1.1*. Photographs of the buildings are given in *Section 7*.

Table 4.3.1.1. Summary of the buildings construction details.

Type/Name	Shed 1	Shed 2	Shed 3 (mostly collapsed)
No. of storeys	1	1	1
Roof type	Sloping	Pitched	Pitched
Roof cladding	Corrugated iron	Metal	Roofing felt
Roof lining	None	None	None
Ridge	N/A	Metal	Roofing felt
Frame	Breeze blocks	Metal	Wooden
Wall type	Wooden	Metal	Wooden
Exterior	Climbing plants on the east and south elevations	N/A	N/A
Building dimensions	c.3m wide x c.5.5m long	c.1m wide x c.1.5m long	c.2m wide x c.2.5m long
Cellar	N/A	N/A	N/A
Bat potential	Negligible	Negligible	Negligible

Due to their construction and lack of roosting opportunities, it is unlikely these buildings would be used by roosting bats. All of the buildings have negligible bat roost potential.

Bat roost potential of trees

There are no trees on the site that have bat roost potential.

Commuting and foraging bats

Although the garden and those nearby provide some greenspace, suitable habitat for foraging bats is rather limited. However, the hedge on the southern boundary provides a link to hedges that in turn link to the railway line to the south of the site. This gives links to the wider countryside and hence to areas of higher quality foraging.

Bats follow linear landscape features such as lines of trees, hedges, buildings and waterways in order to commute from their roost sites to their feeding grounds. Likewise they use these features to navigate between feeding areas and alternative roosts.

4.3.2 *Badger*

There was no evidence of badger found during the survey.

4.3.3 *Dormouse*

Habitat suitability

The hedge and adjacent ornamental shrubs and *Rubus fruticosus* agg. (Bramble) is suitable habitat for dormouse. Dormice are known to utilise such areas where other more typical food species is less abundant. However, the site is within a residential/ commercial area with roads surrounding the connecting gardens and a railway line to the south. In addition, the hedgerows edging the adjacent field to the south-east are isolated by the surrounding commercial buildings and the railway line to the south. As such, it is unlikely that dormice are present.

4.3.4 *Birds*

The hedge and the ornamental bushes on site have the potential to support nesting birds during the breeding season.

4.3.5 *Widespread species of reptiles*

In 2010 the site consisted of short amenity grassland which was unsuitable for reptiles due to the lack of cover and foraging. However, the visit on the 24th February 2014 found the grassland had become longer and slightly tussocky (particularly at the eastern end) and as such provided suitable foraging habitat for widespread species of reptile such as slow-worm (see *Photos 1-4* in *Section 7*).

There is also a small amount of nettlebed vegetation that could be used as foraging habitat for reptiles (see *Photos 6-8* in *Section 7*). The hedge is also suitable hibernation habitat. In addition,

there is a pile of rubble in the centre of the north part (see *Photo 14*) and compost heap in the centre of the southern boundary (see *Photo 15*). These are located at *Target Notes 1 & 2*, respectively, on the Phase 1 Habitat Survey Map on *Figure 4* in *Section 6*. These areas provide suitable foraging and hibernation habitat for reptiles (see *Photo 14*).

During the 2010 survey, reptile fencing was observed on adjacent land (the field closest to the bungalow) suggesting that a reptile survey or translocation was being carried out. Information available from planning shows the recently developed site to the south-west (planning reference LU/372/10/DOC) had slow-worms and common lizards, as well as grass snake eggs. These were translocated to allow the development to proceed.

5 INTERPRETATION AND EVALUATION

5.1 Constraints on survey

The site visit was undertaken in February, outside the optimum survey season for protected species and plants. However, it is possible to assess the habitats present and their suitability for protected species.

5.2 Survey report expiry

If more than 12 months elapses after completion of all surveys, it may be advisable to conduct further survey work to obtain up-to-date information prior to commencement of construction to ensure protected species compliance.

5.3 Legal context

Habitat has been identified on site that is suitable for protected species. Different species are afforded different levels of protection; as detailed in *Appendix A*.

The site is not designated for its wildlife interest at an international, national or local scale.

5.4 Potential impacts of proposed development

5.4.1 Desk study

There are no statutory designated sites within 2km of this site. There are three areas of semi-natural woodland and ancient replanted woodland within 2km of the site. None of the connectivity to these areas will be affected by this small-scale development.

5.4.2 Habitats and plants

The habitats and plant species observed on site are widespread and common.

No plant species listed on *Schedules 8 and 9 of the Wildlife and Countryside Act 1981* were recorded on the site.

5.4.3 Bats

Bat roost potential of buildings

The three sheds to be removed have negligible bat roost potential. Therefore this development should have no impact on roosting bats.

Foraging and commuting

Foraging habitat for bats on site is limited. However it is possible that bats are using the hedge along the southern boundary of the site for foraging and/or commuting. Retaining this hedge will help minimise potential impact to bat populations in the local area, particularly as this hedge provides a link to hedges that in turn connect to areas of higher quality foraging habitat in the wider countryside.

Changes in lighting can also affect roosting bats. Ideally, the light levels in the new development should not exceed the existing levels (particularly to the rear of the site). In addition, there should be no lighting directed onto any retained vegetation, especially the hedge.

5.4.4 *Badger*

Areas within 30m of development activities are usually searched for setts (where access is possible) as former guidelines suggest badgers and their setts could be disturbed by work using heavy machinery within 30m of a badger sett, light machinery within 20m, and light work (such as digging) within 10m.

As no badger setts were found on site, development works are free to proceed without further regard to this species, although if a badger sett is subsequently discovered within 30m of the proposed works then it may require a licence from Natural England to proceed. Guidance to what may be classed as disturbance to a badger (when occupying a sett) can be found at:

http://www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf.

5.4.5 *Birds*

The hedge and the larger ornamental bushes could be used by nesting birds. To prevent any impacts, removal of any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (late February to August inclusive). The destruction of active bird nests is prohibited under the *Wildlife and Countryside Act 1981* (as amended). If this is not possible, and vegetation has to be removed during the nesting season, then it should be inspected (by an ecologist) for nests immediately prior to removal of the vegetation. If there are active nests then they must be retained and work delayed until the young have fledged and left the nest.

5.4.6 *Widespread species of reptiles*

Suitable foraging, basking and hibernation habitat for widespread reptile species such as slow-worms is present. There is also suitable habitat adjacent to the site (beyond the boundary hedge). However, as the suitable habitat is relatively recent, it is expected only low numbers (<10) of slow-worms, if any, are present on the site.

In addition, during the 2010 survey, reptile fencing was observed on adjacent land (the field closest to the bungalow) suggesting that a reptile survey or translocation was being carried out. This had been built on when the 2014 survey was carried out. Information available from planning shows

this site (planning reference LU/372/10/DOC) had slow-worms and common lizards, as well as grass snake eggs. These were translocated to allow the development to proceed. Widespread species of reptile are protected from intentional or deliberate killing or injury. As a precautionary approach the mitigation described in *Section 5.6*. will be undertaken.

5.5 *Further survey*

No further surveys are necessary providing the habitat does not become more suitable for reptiles (see *Section 5.2. Report expiry*).

5.6 *Outline mitigation & enhancement measures*

5.6.1 *General*

National Planning Policy Framework (NPPF 2012) states "*opportunities to incorporate biodiversity in and around developments should be encouraged*" as part of the consideration for "*presumption in favour of sustainable development*". Additionally, the *IAPP Biodiversity Checklist* requests "*...proposals for enhancements of biodiversity*". Therefore, in addition to mitigation the sections below also include ways to enhance the site for wildlife.

A rabbit hole was found in the centre of the southern part of the site (located at *Target Note 3* on the Phase 1 Habitat Survey Map on *Figure 4* in *Section 6*) and it likely that they are present elsewhere on site. It is likely that this will be affected by the construction works. Therefore precautionary steps will be taken to avoid causing unnecessary harm or suffering to rabbits (a legal requirement under the Wild Mammals (Protection) Act 1996). This will involve any affected rabbit holes being carefully excavated (*e.g.* by hand or with light machinery) and left open overnight for animals to escape before complete removal of the earth takes place.

5.6.2 *Habitats*

Heras fencing or similar should be used to protect the roots of the retained hedgerow during construction. Dust sheets or similar protective covers should be attached to the fencing to protect from dust generated during construction. The guidance provided in BS 5837 *Trees in relation to Construction* provides further advice on minimising the impact to retained trees on a development site.

Any new hedgerows or plantings on the development should consist of a mixture of native species similar to those already on site. This will ensure suitable habitat for wildlife remains on site.

5.6.3 *Bats*

Enhancements for bats could be as simple as access into soffit boxes (via 50x50mm gaps), or using hanging tiles or timber cladding offset with 30mm gaps for bats to roost behind. Bat bricks *e.g.* Habitat Bat Boxes or Ibstock Enclosed Bat Box provide cavities that are incorporated into the build structure to offer roosting space for bats.

It is suggested that bat bricks (Habibat Bat Boxes) or hanging tiles (with access to the void behind) are incorporated into all of the new buildings. These bat features should be located on the elevations closest to vegetation. This will optimise potential roosting opportunities.

No lighting should be installed near to or directed onto retained vegetation or the adjacent building to the west of the site so that light disturbance is not a problem.

Lighting schemes from new developments can impact bat populations habitat directly by disturbing roosts and reducing foraging area, or indirectly by severing commuting routes from roosts. Therefore, the following (modified from *Bats and lighting in the UK* (BCT 2008)) should be undertaken:

- **Aim of light** The light should be aimed to illuminate only the immediate area required by using as sharp a downward angle as possible. This lit area must avoid being directed at, or close to, any retained vegetation. A shield or hood can be used to control or restrict the area to be lit. Avoid illuminating at a wider angle as this will be more disturbing to foraging and commuting bats as well as people and other wildlife.

For any security lighting, the following should also apply:

- **Power** It is rarely necessary to use a lamp of greater than 2000 lumens (150W) in security lights. The use of a higher power is not as effective for the intended function and will be more disturbing for bats.
- **Movement sensors** Many security lights are fitted with movement sensors which, if well installed and aimed, will reduce the amount of time a light is on each night. This is more easily achieved in a system where the light unit and the movement sensor are able to be separately aimed.
- **Timers** If the light is fitted with a timer this should be adjusted to the minimum to reduce the amount of 'lit time'.
- **Alternatives** The requirement for security lighting in each instance should be carefully considered and only used where absolutely necessary to deter crime.

5.6.4 Birds

To allow the site to be cleared for development without harm to nesting birds (so as to comply with the law – the *Wildlife and Countryside Act 1981* (as amended)), any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (late February to August inclusive).

In addition, the site will be enhanced for birds. To maximise the number of species of birds attracted, several different types of bird boxes will be placed in various locations within the development site. It is not advisable to place many boxes with identical dimensions, because individuals of the same species would not tolerate each other's presence, especially in built-up areas with limited food resources.

The bird boxes will consist of a mixture of typical garden single chamber bird boxes (*e.g.* for blue and great tits) fixed to a tree at a height of 2-4m, and open-fronted boxes (*e.g.* for robins and wrens) at a lower height and concealed among the foliage of shrubs. At least one will be a multi-chamber box suitable for house sparrows.

5.6.5 *Widespread species of reptiles*

Although there is suitable habitat for reptiles on the site it has only developed recently. Works to render habitat unsuitable for reptiles (*i.e.* a destructive search) should be supervised by an ecologist so that no reptiles are harmed; any found should be captured and removed to a safe area in the east corner of the site (shown in *Figure 5* in *Section 6*). This area should be fenced with reptile fencing to separate it from the area of works.

In addition, any natural refugia (*e.g.* rubble and wood piles, compost heaps and garden rubbish) should be removed by hand.

Topsoil stripping should be undertaken as the final stage and should also be supervised by an ecologist.

As the east corner of the site is sub-optimal for reptiles, turf should be cut from elsewhere on the site and moved into this area. This should be allowed to become established prior to any reptiles being translocated into this area.

As low numbers (if any) of reptiles are expected, if more than 10 slow-worms are found (or the presence of any other reptile species found), works will be suspended until a suitable mitigation and compensation strategy can be devised with the approval of the LPA.

5.7 *Requirement for Natural England licences*

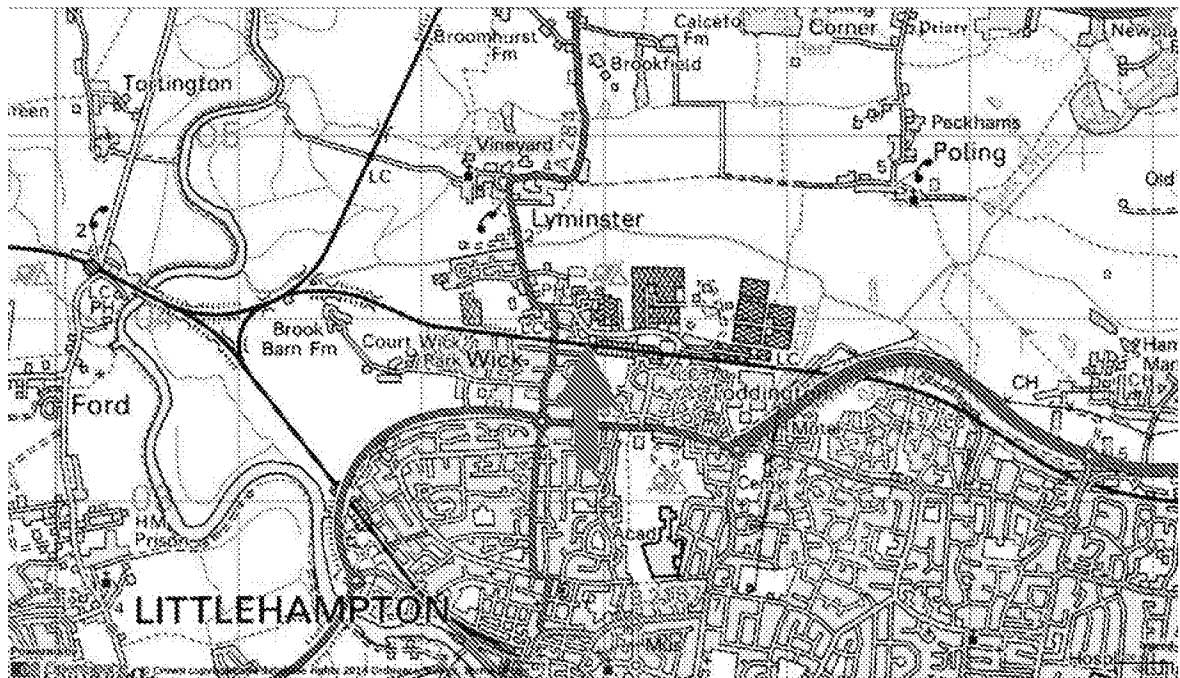
5.7.1 *European Protected Species (EPS) licences*

A European Protected Species licence is not currently required. However, should any European protected species be subsequently found to be using the site, a licence will be applied for.

Figure 1. Aerial photographs showing the location of the site.



Figure 2. OS Map showing the location of the site (as indicated by red arrow).



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Figure 3. Plan showing the extent of the site outlined in red.

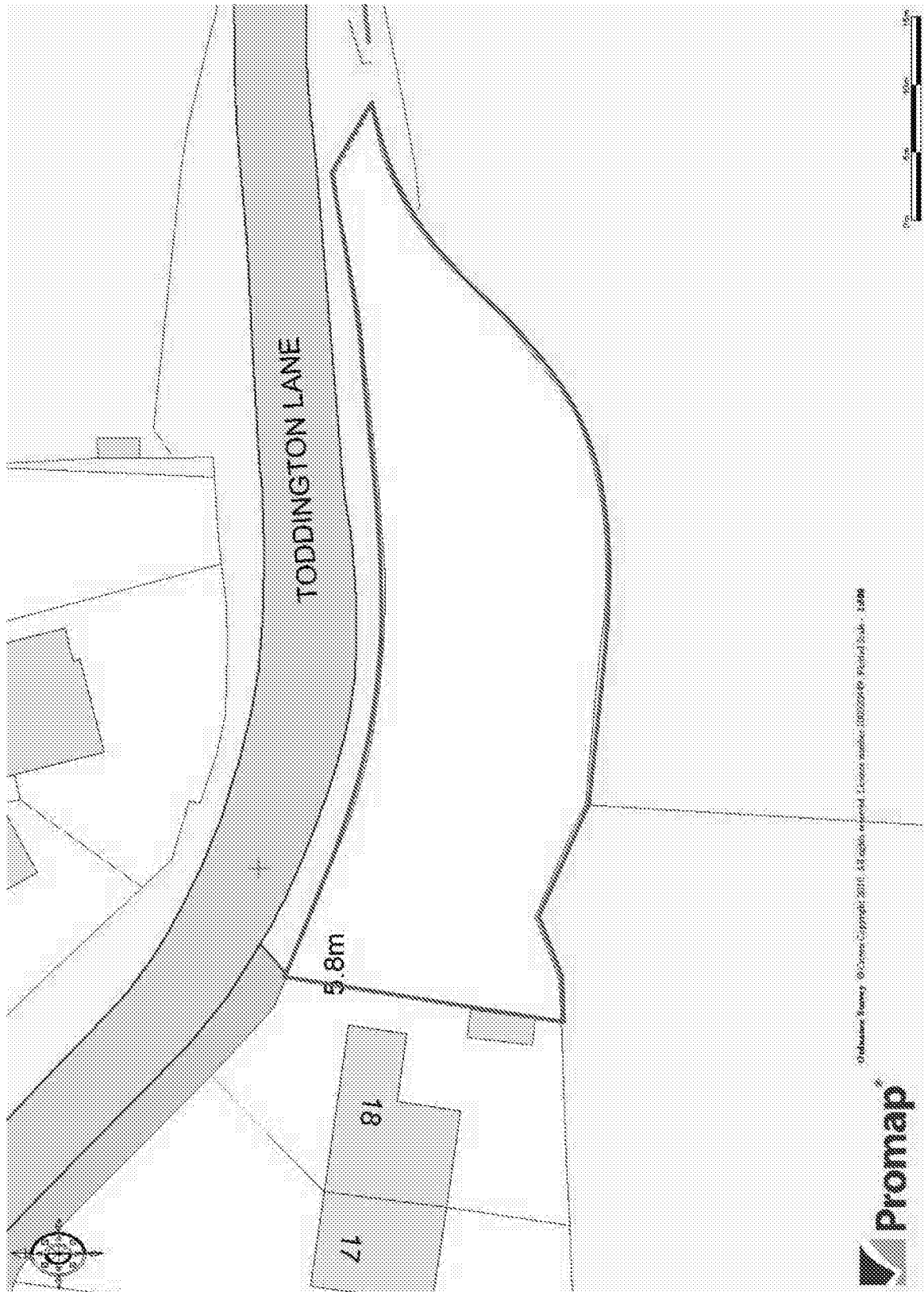


Figure 4. Phase 1 Habitat Map.

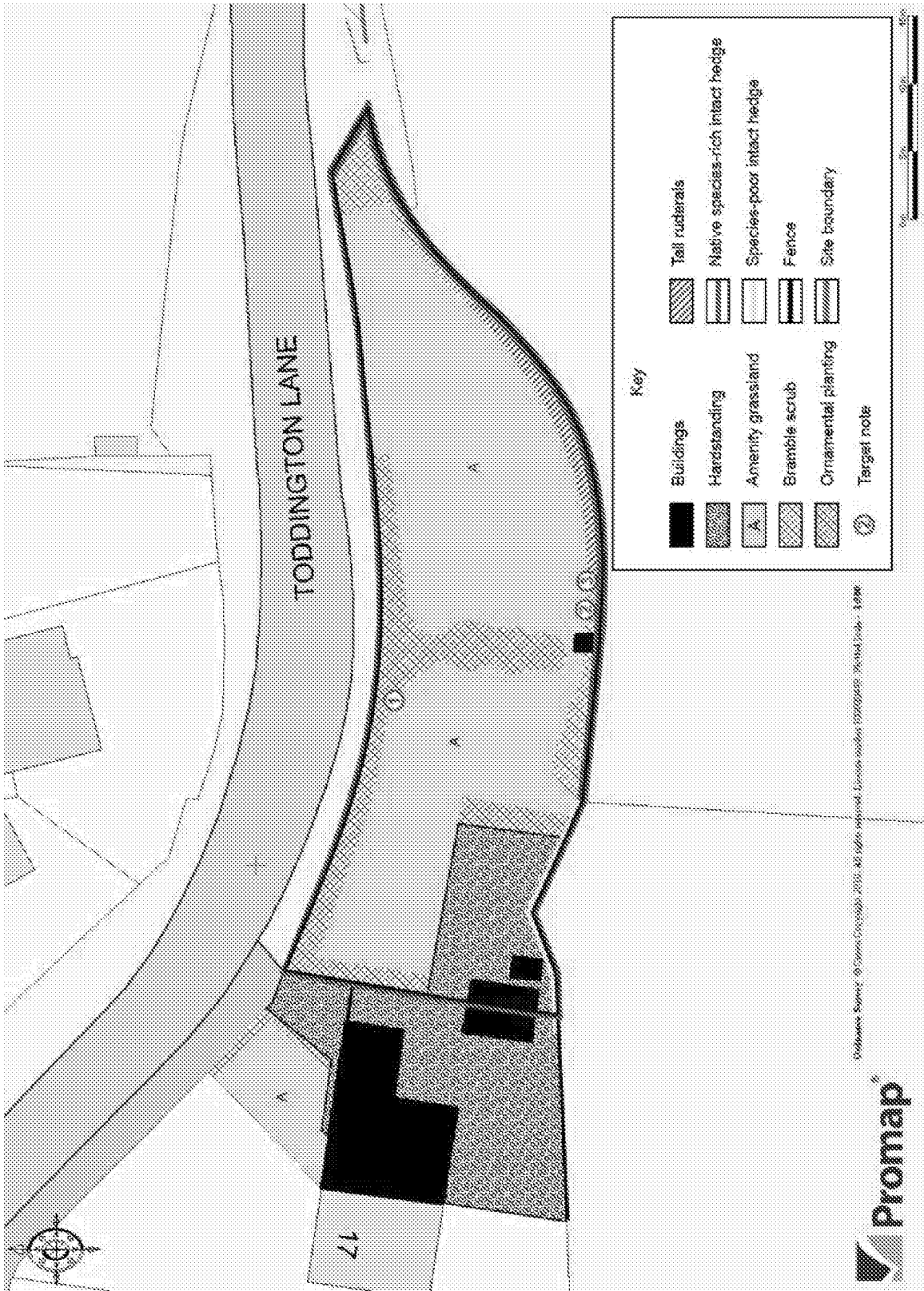
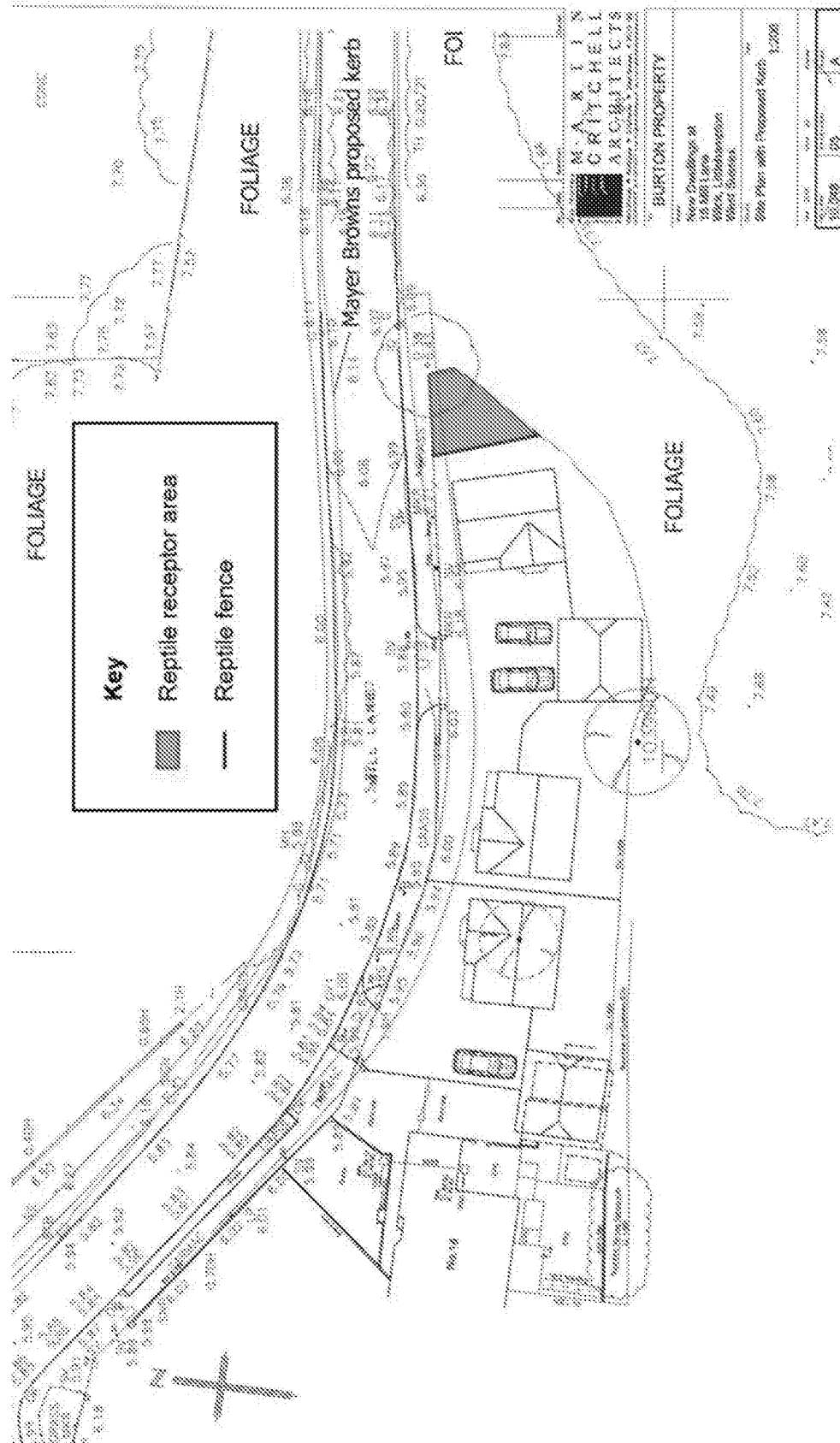


Figure 5. Proposed site plan showing the location of the reptile receptor site.



PHOTOGRAPHS

Photo 1. View across the site from the eastern end, facing west.



Photo 2. The eastern end of the site showing the tussocky grassland and the fencing on the northern boundary.



Photo 3. View across the site from the western end, facing east.



Photo 4. The western end of the site showing the tussocky grassland and the area of hardstanding in the south-west corner.



Photo 5. Hedge on the southern boundary of the site.



Photo 6. Overgrown hedge on the southern boundary of the site at the eastern end.



Photo 7. Patch of scrub at the eastern end of the site.



Photo 8. Piles of rubble and rubbish on the southern boundary of the site.



Photo 9. Shed 1(right) and Shed 2 (left) on the hardstanding in the south-west corner of the site.

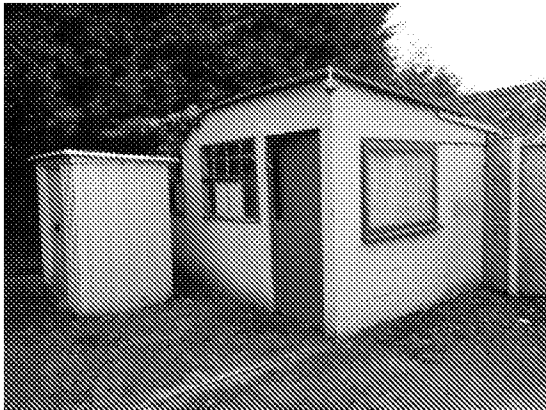


Photo 10. Interior of Shed 1.

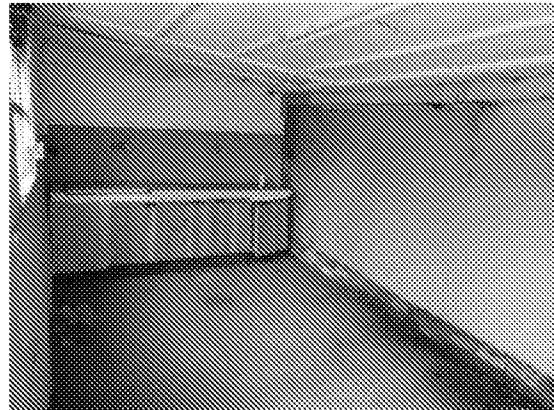


Photo 11. Interior of Shed 2.

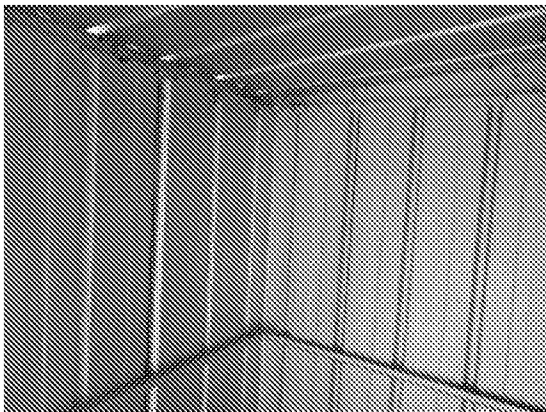


Photo 12. Shed 3 in the centre of the southern part of the site.

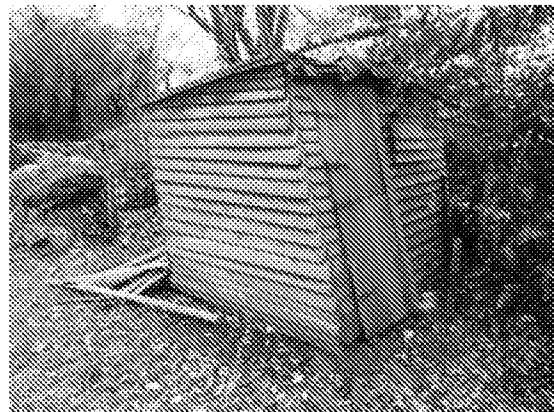


Photo 13. Shed 3 which has mostly collapsed.



Photo 14. Pile of rubble in the centre of the northern part of the site.



Photo 15. Compost heap in the centre of the southern part of the site.



Photo 16. Grass verge along road edging the northern boundary of the site.



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9.1 General

This section briefly describes the legal protection afforded to the protected species identified in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

9.2 Bats

All species of British bat are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act). This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European protected species listed on *Schedule 2* of the *Conservation Habitats & Species (Amendment) Regulations 2012* which gives them full protection under *Regulation 39*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb a bat (in such a way as to be likely to significantly affect: (i) the ability of a significant group of bats to survive, breed or rear/nurture their young; or (ii) the local distribution or abundance of the species concerned);
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present (bats tend to reuse the same roost).

Several species of bat are included as a Priority Species in the UK Biodiversity Action Plan (UKBAP - JNCC (2003)) and also as species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

All species of British bat are also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.

9.3 *Great crested newt*

Great crested newt (*Triturus cristatus*) is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receives full protection under *Section 9*. This species is also listed as a European Protected Species on *Schedule 2* of the *Conservation Habitats & Species (Amendment) Regulations 2012* which gives it full protection under *Regulation 39*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The great crested newt is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

9.4 *Badger*

Meles meles (badger) is protected in Britain under the *Protection of Badgers Act 1992* (as amended) and *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended).

The legislation affords protection to badgers and badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a badger sett; or
- to disturb a badger when it is occupying a sett.

Guidance to what may be classed as disturbance to a badger (when occupying a sett) can be found at: http://www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf

9.5 *Dormouse*

Dormouse is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receives full protection under *Section 9*. This species is also listed as a European Protected Species on *Schedule 2* of the *Conservation Habitats & Species (Amendment) Regulations 2012* which gives it full protection under *Regulation 39*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;

- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

9.6 *Birds*

9.6.1 *Birds - general protection*

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CRow Act.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

9.6.2 *Birds - specially protected species*

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CRow Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

9.7 *Widespread species of reptiles*

Zootoca vivipara (common lizard), *Natrix natrix* (grass snake), *Anguis fragilis* (slow-worm), and *Vipera berus* (adder) are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CRow Act.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

9.8 *European Protected Species Licences*

Where it is necessary to carry out an action that could result in an offence under the *Conservation Habitats & Species (Amendment) Regulations 2012* it is possible to apply for a European Protected Species (EPS) licence from Natural England. Licences are only issued where Natural England are satisfied that three derogation tests are met. These are that the activity is for **imperative reasons of**

overriding public interest, that there must be **no satisfactory alternative** and that **favourable conservation status of the species must be maintained**.

Consideration of these three derogation tests was previously left to Natural England as part of their deliberations on whether to grant a licence for the development activity after a planning consent has been issued. However, the regulations now require that **all** public bodies, *i.e.* **Local Planning Authorities** (LPAs), have regard to the requirements of the European Habitats Directive when carrying out their functions. As a result, LPAs **must** address the three derogation tests when considering a planning application that that could impact upon any European Protected Species (EPS).

9.9 *National planning context*

9.9.1 *General*

Surveys should be completed in line with Natural England's *Standing Advice for Local Authorities* (<http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/default.aspx>), which states:

- Natural England will not comment on applications that are submitted without the relevant protected species surveys (see flowchart) if there are no other issues (*i.e.* in relation to SSSIs or landscape).
- Natural England will not comment on scoping surveys that recommend further surveys where these have not been undertaken and submitted with the scoping reports.

In addition to the above, *Section 40* of the *Natural Environment and Rural Communities Act* (2006) imposes a new duty on all public authorities to have regard for biodiversity.

9.9.2 *National Planning Policy Framework (NPPF)*

From the 27th March 2012, the NPPF now supersedes Planning Policy Statements. The NPPF understands that economic, social and environmental roles of sustainable development are mutually dependent on each other and therefore should not be viewed in isolation. It states: "*in assessing and determining development proposals, local planning authorities should apply the presumption in favour of sustainable development*".

The NPPF incorporates the UK Sustainable Development Strategy's five guiding principles of sustainable development:

- living within the planet's environmental limits;
- ensuring a strong, healthy and just society;
- achieving a sustainable economy;
- promoting good governance; and
- using sound science responsibly.

NPPF states that planning should enhance the natural environment and provide net gains for biodiversity where possible. It states that "*development proposals where the primary objective is to*

conserve or enhance biodiversity should be permitted" and "opportunities to incorporate biodiversity in and around developments should be encouraged". The importance of ecosystem services and soils is now also specifically noted.

It also includes a statement to *"encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value".*

It should be noted that the *"presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined".*

It also encourages planning policies to *"minimise impacts on biodiversity and geodiversity by identify[ing] and map[ing] components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation". This applies to non-statutory designated sites including Sites of Importance for Nature Conservation (SINCs) and equivalent county wildlife sites.*

Early engagement with all necessary stakeholders, including expert bodies, is encouraged by NPPF.

10 APPENDIX B – PLANT SPECIES LISTS

Species	Grassland	Flowerbeds & ornamental shrubs	Hedge	Nettlebed vegetation
a) Woody species				
<i>Buddleja davidii</i> (Butterfly-bush)	-	vr	-	-
<i>Crataegus monogyna</i> (Hawthorn)	-	-	d	-
<i>Elaeagnus commutata</i> (Silver-berry)	-	r	-	-
<i>Euonymus japonicus</i> (Evergreen Spindle)	-	vr	-	-
<i>Hedera helix</i> (Ivy)	-	ld	sd	ld
<i>Hypericum calycinum</i> (Rose-of-Sharon)	-	lf	-	-
<i>Ilex aquifolium</i> (Holly)	-	-	o	-
<i>Laurus nobilis</i> (Bay)	-	o	-	-
<i>Ligustrum ovalifolium</i> (Garden Privet)	-	ld	-	-
<i>Prunus domestica</i> (Wild Plum)	-	r	-	-
<i>Prunus spinosa</i> (Blackthorn)	-	-	o	-
<i>Rubus fruticosus</i> agg. (Bramble)	vr	r	lf	vr
<i>Salix caprea</i> (Goat Willow)	-	r	-	-
<i>Salix cinerea</i> (Grey Willow)	-	r	-	-
<i>Sambucus nigra</i> (Elder)	-	-	r	-
<i>Spiraea xarguta</i> (Bridal-spray)	-	ld	-	-

b) Herbs				
<i>Agrostis stolonifera</i> (Creeping Bent)	o	-	-	-
<i>Alliaria petiolata</i> (Garlic Mustard)	-	-	vr	-
<i>Anisantha sterilis</i> (Barren Brome)	r	-	-	-
<i>Arrhenatherum elatius</i> (False Oat-grass)	o	-	-	-
<i>Arum maculatum</i> (Lords-and-Ladies)	vr	vr	vr	-
<i>Bellis perennis</i> (Daisy)	vr	-	-	-
<i>Carex pendula</i> (Pendulous Sedge)	-	r	-	-
<i>Cirsium arvense</i> (Creeping Thistle)	vr	-	-	-
<i>Cirsium vulgare</i> (Spear Thistle)	vr	-	-	-
<i>Dactylis glomerata</i> (Cock's-foot)	o	-	-	-
<i>Dryopteris filix-mas</i> (Male-fern)	-	-	vr	-
<i>Epilobium</i> species (a Willowherb)	vr	-	-	-
<i>Festuca rubra</i> (Red Fescue)	lf	-	-	-
<i>Galium aparine</i> (Cleavers)	lf	-	lf	f
<i>Geranium dissectum</i> (Cut-leaved Crane's-bill)	r	-	-	-
<i>Geum urbanum</i> (Wood Avens)	vr	-	-	-
<i>Glechoma hederacea</i> (Ground-ivy)	r	-	-	lf
<i>Holcus lanatus</i> (Yorkshire-fog)	ld	-	-	-
<i>Hyacinthoides xmassartiana</i> (Hybrid Bluebell)	-	vr	-	-
<i>Hypochaeris radicata</i> (Cat's-ear)	vr	-	-	-
<i>Lamium album</i> (White Dead-nettle)	vr	-	-	-
<i>Lapsana communis</i> (Nipplewort)	vr	-	-	-
<i>Lolium perenne</i> (Perennial Rye-grass)	a	-	-	-
<i>Myosotis arvensis</i> (Field Forget-me-not)	vr	-	-	-

<i>Picris echioides</i> (Bristly Oxtongue)	o	-	-	-
<i>Poa annua</i> (Annual Meadow-grass)	vr	-	-	-
<i>Potentilla reptans</i> (Creeping Cinquefoil)	vr	-	-	-
<i>Ranunculus repens</i> (Creeping Buttercup)	o	-	-	-
<i>Rumex obtusifolius</i> (Broad-leaved Dock)	vr	-	-	-
<i>Sonchus asper</i> (Prickly Sow-thistle)	r	-	vr	-
<i>Stachys sylvatica</i> (Hedge Woundwort)	-	vr	vr	vr
<i>Taraxacum</i> sect. <i>Ruderalia</i> (Dandelion)	vr	-	-	-
<i>Urtica dioica</i> (Common Nettle)	lf	lf	o	d
<i>Veronica chamaedrys</i> (Germander Speedwell)	r	-	-	-