



Preliminary Ecological Appraisal

***The Gate, The Meadway, Reading.
RG30 4NX***

Client Name: Alastair Mitchell-Baker

Project Number: P3208.1.0

Date: 14 November 2018

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Version	Final

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1 Summary

Site	The Gate, The Meadway, Reading RG30 4NX
Central OS Grid Reference	SU 66906 73163
Report Commissioned by	CPL Chartered Architects on behalf of Alastair Mitchell-Baker.
Date of Survey	28 th September 2018

Considerations	Description	Comments & Recommendations
Ecological Importance of the Site	The site comprised buildings, hard-standing, amenity grassland, tall ruderal vegetation, hedgerows and scattered trees.	The site was considered to be of negligible importance due to the dominance of buildings and hard-standing, poor quality of its habitats, poor plant diversity and use of artificial lighting.
Further Surveys/ Assessments	Bat roost assessment of The Gate Church.	One bat emergence or one re-entry survey between May and August.
Avoidance and General Mitigation	Scattered trees and hedgerow.	Protect these boundary features and replant any hedges lost to development with native species of local provenance.
	Birds.	Clear any woody vegetation and buildings outside the nesting bird season, or after a nesting bird survey by an ecologist if clearance is scheduled between March and August (inclusive).
	Hedgehog.	Provide hedgehog links within any new fencing.
	Schedule 9 non-native invasive species <i>Cotoneaster</i> sp.	<i>Cotoneaster horizontalis</i> within the centre of the site should be removed from site to an approved disposal facility, to avoid its spread.
	Site measures.	Cover trenches or provide planked escape routes to allow any animals that fall in to escape. Store materials off the ground and do not leave temporary standing water.
Enhancements	To increase the ecological value of the site.	Minimise artificial lighting, create a wildflower garden, install wildlife boxes for birds, bats and insects.

Contents

1	Summary.....	2
2	Introduction	5
2.1	Background.....	5
2.2	Site Location and Description.....	5
2.3	Development Proposal	5
2.4	Scope of Survey.....	5
2.5	Objective	5
3	Methodology.....	6
3.1	Surveyor.....	6
3.2	Desk Study.....	6
3.3	Habitat Survey.....	6
3.4	Protected and Notable Species Assessment.....	6
3.4.1	Amphibians	7
3.4.2	Reptiles	7
3.4.3	Badgers.....	7
3.4.4	Bats.....	7
3.4.5	Hazel Dormouse	8
3.4.6	Other Species	9
3.4.7	Invasive Species	9
3.5	Evaluation	9
3.6	Limitations and Assumptions.....	9
4	Results and Evaluation.....	10
4.1	Designated Sites	10
4.1.1	Statutory Sites.....	10
4.1.2	Non-Statutory Sites	11
4.2	Habitats.....	12
4.2.1	Buildings	12
4.2.2	Hard-standing.....	12
4.2.3	Amenity Grassland	13
4.2.4	Tall Ruderal Vegetation.....	13
4.2.5	Hedgerows.....	14
4.2.6	Scattered Trees.....	15
4.3	Protected and Notable Species	15
4.3.1	Invertebrates	15
4.3.2	Amphibians	16
4.3.3	Reptiles	16
4.3.4	Birds.....	16

4.3.5	Badgers.....	16
4.3.6	Bats.....	16
4.3.7	Hazel Dormice.....	19
4.3.8	Hedgehogs and Other BAP / Rare Species.....	19
4.3.9	Invasive Plants.....	20
5	Recommendations	21
5.1	Nocturnal Bat Survey	21
5.2	General Mitigation	21
5.2.1	Hedgerows and Scattered Trees.....	21
5.2.2	Birds.....	21
5.2.3	Bats.....	21
5.2.4	Invasive Species: Cotoneaster	22
5.2.5	General Site Measures.....	22
5.3	Enhancements	22
6	Conclusion	24
7	References.....	25

Appendix 1 Phase I Habitat Map

Appendix 2 Legislation and Planning Policy

Appendix 3 Wildlife-Friendly Planting

2 Introduction

2.1 Background

agb Environmental was commissioned by CPL Chartered Architects on behalf of Alastair Mitchell-Baker to undertake a Preliminary Ecological Appraisal (PEA) at The Gate, The Meadway, Reading, RG30 4NX, herein referred to as 'the site'.

This report will support a planning application for a new church on site.

2.2 Site Location and Description

The site was located to the north of the Meadway road at central Ordnance Survey Grid Reference: SU 66906 73163. The site totalled c. 0.2ha, comprised buildings, hard-standing, amenity grassland, ruderal vegetation and hedgerows (see **Appendix 1**).

The site was situated within an urban location and surrounded by housing on all sides. The wider area comprised urban settlement, agricultural land, hedgerows, pockets of deciduous woodland and a golf course.

2.3 Development Proposal

Alastair Mitchell-Baker proposes to build a new church, with associated parking, access and a new play area. This will involve the demolition of the existing building and the removal of hedgerows. The footprint of the new building will cover that of the existing and will extend to cover amenity grassland within the east of the site (CPL, 2018).

2.4 Scope of Survey

This report presents information obtained during the following:

- A desk-based assessment undertaken during October 2018; and
- A walkover survey undertaken on 28th September 2018.

2.5 Objective

The objective of this PEA is to identify any further ecological surveys and / or mitigation required, and potential enhancement opportunities in accordance with planning policy, and European and UK wildlife legislation (**Appendix 2**).

3 Methodology

3.1 Surveyor

The site was surveyed by Senior Ecologist Dr Leslie Cousins BSc (Hons) PhD, who is licensed to survey for bats (2015-10284-CLS-CLS, Level 2) and great crested newts (2015-16603-CLS-CLS, Level 1).

Leslie is a Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and subject to the CIEEM Professional Code of Conduct.

3.2 Desk Study

Natural England's Multi-Agency Geographic Information for the Countryside (MAGIC) database (Natural England, 2018) was accessed on the 9th October 2018 for information on

- Natura 2000 sites such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites within 10km of the study area;
- Statutory sites designated for nature conservation within a 5km radius of the study area;
- Natural England's Impact Risk Zones (IRZs) for Sites of Special Scientific Interest (SSSI), Special Areas of Conservation, Special Protection Areas and Ramsar sites within which the study area was located; and
- Any European Protected Species Mitigation Licences granted by Natural England within a 2km radius of the study area.

The Thames Valley Environmental Records Centre (TVERC) was also consulted on the 8th October 2018 for the following information for a 1km radius around the application site:

- Non-statutory nature conservation designations, such as Local Wildlife Sites (LWS);
- Legally protected species, such as great crested newts, reptiles, birds and bats; and
- Notable species, such as those listed in the local Biodiversity Action Plan.

3.3 Habitat Survey

The survey involved a site visit on the 28th September 2018 to record and map habitat types and ecological features within the site. The survey was undertaken in accordance with *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017), and the general principles and methods outlined in the *Handbook for Phase I Habitat Survey* (JNCC, 2010). Features of interest were identified as target notes on the Phase I Habitat Map (**Appendix 1**).

Aerial photographs, maps and field observations were used to identify habitats in the wider landscape which could be impacted by development of the site.

Weather conditions during the survey: 22°C; a light air (Beaufort 1), 50% cloud cover and dry.

3.4 Protected and Notable Species Assessment

The site was inspected for evidence of and assessed for potential to support protected and notable species. This included species listed under the *Conservation of Habitats and Species Regulations 2017*, the *Wildlife and Countryside Act 1981 (as amended)* (WCA), and those given extra protection under the *Natural Environment and Rural Communities (NERC) Act*

2006, Countryside and Rights of Way (CROW) Act 2000, and the Protection of Badgers Act 1992.

The following protected / notable species were considered within the assessment:

3.4.1 Amphibians

The site was assessed for suitability to support amphibians such as the legally protected great crested newt *Triturus cristatus* and the notable common toad *Bufo bufo*. The assessment was undertaken in accordance with the *Herpetofauna Workers' Manual* (Gent & Gibson, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, et al., 2001).

Consideration was given to waterbodies on and within 250m of the site using OS maps and aerial images.

3.4.2 Reptiles

The site was assessed for suitability to support reptiles with reference to the *Herpetofauna Workers' Manual* (Gent & Gibson, 2003) and *Froglife Advice Sheet 10 An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation* (Froglife, 1999).

3.4.3 Badgers

The site and a 30m zone around the site (where accessible), were surveyed for badger *Meles meles* evidence such as setts, latrines, pathways, footprints, snuffle holes and badger hairs (Harris, et al., 1989).

3.4.4 Bats

Potential for the site to support roosting, foraging and commuting bats was assessed in line with the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists Good Practice Guidelines* (Collins, 2016).

3.4.4.1 Roosting

The building on site was assessed for suitability to support roosting bats according to the classifications in **Table 3.1**. Equipment used to investigate the building included; binoculars, a ladder and a high-powered torch. All buildings were described and surveyed for bats and their evidence, which includes droppings, staining, scratch marks and feeding remains.

Table 3.1: Classifying the bat roosting suitability of buildings (Collins, 2016).

Negligible roosting suitability	Negligible habitat features within the site likely to be used by roosting bats.
Low roosting suitability	A structure with one or more features that could be opportunistically used by individual bats. Unlikely to support maternity or hibernation roosts.
Moderate roosting suitability	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat (unlikely to support roosts of high conservation status).
High roosting suitability	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed roost	Evidence of bat occupation found.

Trees were surveyed for evidence of bats and potential bat roost features (PRFs), and then assigned a level of suitability for roosting bats as outlined in **Table 3.2**. PRFs include woodpecker holes, rot holes, hazard beams, cracks and splits, knot holes, cavities, loose bark, and partially detached ivy (Andrews, 2013).

Table 3.2: Classifying the bat roosting suitability of trees (Collins, 2016).

Negligible roosting suitability	Trees with few, if any, features suitable for roosting.
Low roosting suitability	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate roosting suitability	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat. These trees are unlikely to support a roost of high conservation status.
High roosting suitability	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

3.4.4.2 Foraging and Commuting

The site was assessed for its suitability to support foraging and commuting bats according to **Table 3.3**.

Table 3.3: Classifying the suitability of bat foraging and commuting habitat (Collins, 2016).

Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated or poorly connected to habitat in the surrounding landscape. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in parkland) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that bats may use for commuting such as tree-lines and scrub or linked back gardens. Habitat that connects to the wider landscape that bats may use for foraging such as trees, scrub grassland and water.
High	Continuous, high quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, tree-lines and woodland edge. High quality habitat that is well-connected to the wider landscape that is likely to be used regularly by commuting bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

3.4.5 Hazel Dormouse

The site was assessed for potential to support the hazel dormouse *Muscardinus avellanarius*, in accordance with the *Dormouse Conservation Handbook* (Bright, et al., 2006). Dormice typically use connected woodland, hedgerows and scrub that contain suitable food plants. Aerial images were used to assess the connectivity of any suitable habitat on the site to woodland and hedgerows within the wider area.

3.4.6 Other Species

The site was assessed for suitability to support other protected and notable fauna species / assemblages including birds, invertebrates and mammals.

3.4.7 Invasive Species

The site was searched for invasive plants such as Japanese knotweed *Fallopia japonica*.

3.5 Evaluation

Designated sites, habitats and species (where presence has been identified) have been evaluated in accordance with the *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial and Freshwater* (CIEEM, 2018).

These guidelines aim to give consistency in evaluating the importance of the ecological features within and around a site, which help inform any effects or impacts a scheme will have upon them.

A value of the ecological features (designated sites, habitats or species) has been assigned according to their level of importance using the following terms:

- International and European
- National
- Regional
- County
- District
- Local

3.6 Limitations and Assumptions

Access was available to the entire site and the baseline conditions reported represent those identified at the time of the survey. The survey was completed during the optimal time of year for recording vegetation. Although a reasonable assessment of the site can be made during a single survey, seasonal variations are not observed.

This PEA provides an overview of the likelihood of protected / notable species occurring on the site (negligible, low, moderate, or high). Absence of a species cannot be presumed where no evidence was found. Further surveys have been recommended where there is reasonable likelihood of a protected species being present and impacted by the development proposal. This is based on the suitability of the habitat and any evidence observed.

This PEA does not constitute a full botanical survey or a Phase 2 pre-construction survey for Japanese knotweed.

On the assumption that the development proposal, site conditions and habitats remain unchanged, the results of this assessment are likely to remain valid for up to three years i.e. until October 2021 (BSI, 2013). If works have not yet commenced by this time it may be necessary to update the assessment.

4 Results and Evaluation

The following section presents the results, evaluation and discussion of the designated sites, habitats and protected / notable species, which may be impacted by the proposed development.

4.1 Designated Sites

4.1.1 Statutory Sites

Statutory sites designated for nature conservation within the vicinity of the site are provided in **Tables 4.1** and **4.2**. SACs are of **European importance**, SSSIs are of **national importance** and Local Nature Reserves (LNR) are of **local importance**.

The site falls within the Sulham and Tidmarsh Woods and Meadows SSSI IRZ, however the development does not meet criteria for impacts that would likely lead to a significant effect on this SSSI. Therefore, no consultation with Natural England and no mitigation is required for this SSSI.

There were no habitats or species within the site that serve as qualifying features of the nearby statutory sites. The application site was not ecologically linked to these sites due to the intervening land being extensive urban development (Natural England, 2018). The development is also highly unlikely to indirectly impact any designated sites in the local area as it represents a redevelopment of an existing site with no significant change of use. No significant impacts on statutory sites are expected.

No further action is recommended.

Table 4.1: Designated sites of European importance within 10km of the application site.

Site Name	Distance & Direction from Site	Area (ha)	Reasons for Designation
Hartslock Wood, SAC	7km NW	34.2	Hartslock Wood has been designated as an SAC for two habitat types; orchid rich sites (including the nationally rare monkey orchid <i>Orchis simia</i>) and <i>Taxus baccata</i> woodland.

Table 4.2: Designated sites of national importance within 5km of the application site.

Site Name	Distance & Direction from Site	Area (ha)	Reasons for Designation
Blundells Copse, LNR	0.3km NE	5.55	An ancient woodland with a stream, supports a number of species including amphibians, bats and other mammals.
Lousehill Copse, LNR	1km E	13.03	A semi-ancient woodland, with spring flowers, relics of old ponds and boggy areas. The site also has an open meadow.
Round Copse, LNR	1.1km NE	1.66	Round copse is a dense woodland with a variety of birdlife, including all three UK species of wood pecker.
Mcilroy Park, LNR	1.3km NE	11.98	A park of largely grassland, with some semi-ancient woodland.

Site Name	Distance & Direction from Site	Area (ha)	Reasons for Designation
Sulham and Tidmarsh Woods and Meadows, SSSI	2.6km W	75.75	An area of damp copses and seasonally flooded meadow communities. The site also has a rich invertebrate fauna.
Hosehill Lake, LNR	3.7km SW	23.59	Hosehill lake has a variety of habitats including meadows, woodland, reedbeds and a pond. Many notable and rare bird species have been recorded including gadwall <i>Anas strepera</i> and bittern <i>Botaurus stellaris</i> .

4.1.2 Non-Statutory Sites

Non-statutory sites designated for nature conservation that were located within 2km of the application site are provided in **Table 4.3**. LWSs are of are of **local importance**.

It is considered that the development will be small enough and located sufficiently far enough from any of these sites for there to be any direct or indirect impacts on their habitats.

Further, there does not appear to be any direct public path, hydrological link or other habitat connectivity between these sites and the application site (Natural England, 2018). The development is also highly unlikely to indirectly impact any non-statutory sites in the local area as it represents a redevelopment of an existing site with no significant change of use.

No further action is recommended.

Table 4.3: Non-statutory sites within 2km of the application site.

Site Name	Distance & Direction from Site	Area (ha)	Reasons for Designation
Blundells Copse and the Moor, LWS	0.3km NE	5.5	A small broadleaved woodland which has a number of ancient woodland indicator species. The site has two recorded amber list bird species, the willow warbler and the mistle thrush.
Curtis' Wood, LWS	0.6km SW	7.7	An ash woodland, most of which is recorded on the ancient woodland inventory.
Withy Copse, Oliver's Copse, LWS	1km SW	7	An ancient woodland, which is an area of neglected coppice
Lousehill Copse, LWS	1km E	13.2	Three parcels of broadleaved semi-natural woodland, one of which also contains a pond and some small streams.
Meadway Fringe, LWS	1.1km E	2.1	The site consists of two area; a broad-leaved woodland containing ancient woodland indicator species and also an area of unimproved grassland.
McIlroy Park, LWS	1.3km NE	11.8	A park of largely grassland, with some semi-ancient woodland.
Clay Copse and Cornwall Copse, LWS	1.4km NW	5.6	Two areas of partly semi-natural ancient woodland, neither of which have been surveyed since 1981.

Site Name	Distance & Direction from Site	Area (ha)	Reasons for Designation
Pinks Grove & Beal's Copse, LWS	1.5km W	10.4	An ancient woodland with some replanting. The site also has some ancient woodland indicator species.
Harefield Copse, Mount Skydiver, Boxgrove wood, LWS	1.6km W	17.1	A lowland mixed deciduous woodland, with ancient woodland indicator species. The site also has a grassland ride, sweet chestnut coppice and an ash plantation.
Barefoots Copse, LWS	1.7km NW	1.05	A small area of woodland, which has not been surveyed since 1981.
Prospect Park, LWS	1.7km SE	24.1	A historic parkland, consisting mainly of mown amenity grassland, with some mature and veteran trees. There is also a significant amount of dead wood habitat, hedgerows, scrub and a pond. The site also contains the former LWS the rookery, which is an area of lowland mixed deciduous woodland.
Sulham Wood, LWS	1.7km NW	38.7	A large area of ancient woodland, with some conifer replanting.

4.2 Habitats

The habitats below were recorded within the site during the survey. Habitat types are described below and shown on the Phase I Habitat Map (**Appendix 1**).

- Buildings
- Hard-standing
- Amenity grassland
- Tall ruderal vegetation
- Hedgerows
- Scattered trees

4.2.1 Buildings

A description of the building is provided in relation to its bat roosting suitability in **Section 4.3.6**.

4.2.2 Hard-standing

The site predominantly consisted of an access road and a parking area which are of **negligible** importance (**Photo 4.1**).

No further action is recommended.



Photo 4.1: Hard-standing within the north of the site.

4.2.3 Amenity Grassland

Close mown amenity grassland was recorded within the east site (**Photo 4.2**). Species comprised annual meadow grass *Poa annua*, perennial ryegrass *Lolium perenne*, dandelion *Taraxacum officinale* agg. and common daisy *Bellis perennis*. The grassland lacked species diversity and structure and was therefore considered to be of **negligible** importance.

No further action is recommended.



Photo 4.2: Amenity grassland, facing north.

4.2.4 Tall Ruderal Vegetation

A line of tall ruderal vegetation was present across the north of the site. Goose-foot *Chenopodium* sp. was the dominant plant with occasional common nettle *Urtica dioica*, bramble *Rubus fruticosus*, smooth sow- *Sonchus oleraceus* and ivy *Hedera* sp. This small parcel of vegetation consisted of common species and had **negligible** importance.

No further action is recommended.



Photo 4.3: Ruderal vegetation, facing east.

4.2.5 Hedgerows

Three hedgerows were recorded within the site, one on the south-west border of the site, one transecting the centre of the site and a third on the northern boundary. These hedges were not covered by the Hedgerow Regulations as they were located on curtilage boundaries (HMSO, 1997).

4.2.5.1 Hedgerow 1 (H1)

Hedgerow H1 was intact, managed and located on the southwest boundary of the site (**Photo 4.4**). Woody species comprised Laurel *Laurus* sp. privet *Lingstrum* sp. and box *Boxus sempervirens*. This species poor hedge held **negligible importance**.



Photo 4.4: Hedgerow 1 (H1), the hedgerow on the right, facing east.

4.2.5.2 Hedgerow 2 (H2)

Hedgerow H2 was located in the centre of the site (**Photo 4.5**). This species-rich hedge comprised holly *Ilex* sp., hazel *Betulaceae*, oak *Quercus* sp., ash *Fraxinus excelsior*, dogwood *Cornus sanguinea*, beech *Fagus sylvatica*, bramble, ivy and hawthorn. Based on its species composition it was considered representative of the priority Section 41 habitat type, however, it was in poor condition and only of interest within the context of an otherwise featureless site.

4.2.5.3 Hedgerow 3 (H3)

Hedgerow H3 was a line of heavily pruned Leyland *Cupressus x leylandii* forming part the site's northern boundary. The hedgerow was considered to be of **negligible importance**.

Further action for the species-rich hedgerow is recommended in **Section 5**.

4.2.6 Scattered Trees

Two mature trees were located close to the site boundary. There was a willow *Salix* sp. on the northern boundary of the site, and an apple *Malus* sp. on the eastern boundary of the site. It is recommended these trees are retained within the development.

Precautionary measures to protect any trees that may be affected by construction works are recommended in **Section 5**.



Photo 4.5: A pollard willow tree located at the site's northern boundary.

4.3 Protected and Notable Species

Records of protected / notable species for the last ten years have been considered within the assessment below. Older records have been considered where appropriate.

4.3.1 Invertebrates

The TVERC returned 243 records of stag beetle *Lucanus cervus* which are listed on *Schedule 5* of the *WCA*. No recent records of Section 41 (NERC Act, 2006) moths and butterflies were returned, however numerous historic records of Section 41 moths and bees were returned. Most of these records originate from a private residence c. 1km to the north.

Habitats to be significantly impacted by the proposals (amenity grassland, hard standing and hedgerows) are unlikely to support rare or notable species. Limited nectaring opportunities were available for butterflies. There were some tree stumps present in the amenity grassland, however, not sufficiently decayed to support the saproxylic larvae of the stage beetle. The site was therefore considered to hold **negligible** potential for rare / notable invertebrates.

No further surveys or mitigation are recommended.

4.3.2 Amphibians

The TVERC returned one historic record of great crested newt and three historic records of common toad. There was not standing water within the site and no ponds are located within 250m (Natural England, 2018).

The site contained a compost heap (Target Note 1, **Appendix 1**) with potential as a place of shelter or hibernation for amphibians, including great crested newts. However, the site comprised hardstanding and amenity grassland that represent poor quality terrestrial habitat for foraging, sheltering, commuting, and hibernating great crested newts. Amphibians are unlikely to be present within the site due to a lack of suitable habitat and the absence of potential breeding ponds within the local area. The site held **negligible** potential for great crested newts and impacts to other amphibians are not expected.

No further surveys or mitigation are recommended.

4.3.3 Reptiles

The TVERC returned four historic records of grass snake and 19 recent records of slow-worm, with the most recent slow worm record being from 2013 and the nearest 1km north-west. The site lacked the habitat features that these species typically require and was isolated from any suitable reptile habitat in the wider landscape. The site was therefore considered to hold **negligible** potential for reptiles.

No further surveys or actions are recommended.

4.3.4 Birds

The TVERC returned records of these birds listed as Annex I (Birds Directive), Schedule 1 (WCA) and / or of Conservation Concern (RSPB): Red Kite *Milvus milvus*, Skylark *Alauda arvensis*, Song Thrush *Turdus philomelos* and Yellowhammer *Emberiza citrinella*.

Bird interest (nesting / foraging) is likely to be confined to the hedgerows, trees and building. The site was therefore considered to hold **high** potential for widespread species of nesting bird. The site overall was, however, considered to hold **negligible** potential for significant bird species and assemblages.

Further action for nesting birds is recommended in **Section 5**.

4.3.5 Badgers

The TVERC returned 53 confidential records of badgers. No setts were recorded on or within 30m of the site boundary. There were no suitable and undisturbed areas within the site for badgers to build a sett. The site was considered to hold **negligible** importance for badgers.

No further surveys or mitigation for badgers are recommended.

4.3.6 Bats

Table 4.4 lists bat records returned by the TVERC within 2km of the site for the past ten years.

Table 4.5 provides a list of bat Mitigation Licences granted by Natural England within 2km of the site (Natural England, 2018).

Table 4.4: Bat records within 2km of the site for the last ten years.

Bat Species	Protection	Nearest and Most Recent Records
Bat Species <i>Chiroptera</i> sp.	CHSR ¹ ; WCA ² .	Two records, the nearest and most recent 1.3km northeast from 2009
Pipistrelle Species <i>Pipistrellus</i> sp.	CHSR, WCA, LBAP ³ .	One record, 1.8km east from 2017
Common pipistrelle <i>Pipistrellus pipistrellus</i>	CHSR, WCA, LBAP.	14 records, the nearest 0.4km east, the most recent from 2015, there is a recorded maternity roost of 30 common pipistrelle within 2km (2011).
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	CHSR, WCA; SPIE ⁴ , LBAP.	12 records, the nearest and most recent 1km north from 2017.
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	CHSR, WCA.	One record, from 2015 and 1.3km south.
Long-eared bat species <i>Plecotus</i> sp.	CHSR, WCA.	Three records, all from 2013, the nearest 0.8km north.
Brown long-eared bat <i>Plecotus auritus</i>	CHSR, WCA; SPIE, LBAP.	Seven records, the nearest 0.4km east, the most recent from 2017.
Leisler's bat <i>Nyctalus leisleri</i>	CHSR, WCA.	Two records, both from 2013 and the nearest 0.8km north.
Noctule <i>Nyctalus noctula</i>	CHSR, WCA; SPIE, LBAP.	Five records, the nearest 0.8km north, the most recent from 2017.
Myotis bat species <i>Myotis</i> sp.	CHSR, WCA.	Two records, both from 2013 and the nearest 0.8km north.

Table 4.5: Granted bat mitigation licence applications within 2km of the site.

Case Reference	Bat Species	Type of Roost	Distance & Direction	Licence Start & End Dates
2015-18545-EPS-MIT	Brown long-eared, common pipistrelle, soprano pipistrelle	Day roost	2km N	21/01/2016 to 31/01/2021
2015-18545-EPS-MIT-1	Brown long-eared, common pipistrelle, soprano pipistrelle	Day roost	2km N	15/04/2016 to 31/01/2021
2015-18545-EPS-MIT-2	Brown long-eared, common pipistrelle, soprano pipistrelle	Day roost	2km N	06/09/2016 to 31/01/2021
EPSM2010-2341	Common pipistrelle, brown long-eared	Maternity	0.4km E	04/10/2010 to 31/08/2012
EPSM2011-3384	Common pipistrelle	Day Roost	1km E	07/09/2011 to 01/09/2013
EPSM2011-3499	Brown long-eared, common pipistrelle, soprano pipistrelle	Day Roost	0.4km E	14/10/2011 to 01/09/2013

¹ Conservation of Habitats and Species Regulations 2017.² Wildlife and Countryside Act 1981 (as amended).³ Reading Local Biodiversity Action Plan 2005-2015.⁴ Species of Principal Importance in England of Section 41 of the Natural Environmental and Rural Communities Act (NERC), 2006.

4.3.6.1 Roosting (Trees)

Neither of the trees recorded within the site had suitability for roosting bats due to an absence of holes, cracks, and fissures present on the trunks and / or limbs of the trees.

No further surveys or actions are recommended.

4.3.6.2 Roosting (Building)

The site was dominated by a large building used as a place of worship. The church comprised two brick structures joined with a flat roofed link. The two main roofs were pitched and weathered with concrete tiles over bitumen felt. The roof of western most section was constructed of glue-lam beams and was without a significant roof void. The roof over the eastern half of the church was supported by trusses which created a large loft space.

The main entrance at the south elevation and a room at the west of the church had flat roofs.

Exterior windows and doors were well sealed and of timber construction. The eastern side of the church had a concrete gutter detail incorporating a soffit such that there were no gaps visible for bat access. The roof of the western side of the church had fascia, soffit and barge boards of a traditional box design.



Photo 4.6: The Gate Church, south elevation.

Interior roof spaces that were inspected included two coom spaces over the western half of the building and the entire loft space above the eastern half. The roof was generally well sealed, no bats or signs of bats were recorded within the church.



Photo 4.7: The internal roof space above the eastern half of the building.

The exterior of the church held a small number of features that could be utilised by crevice dwelling species of bat. These included gaps at the soffit / wall interface, deteriorating verges, cable penetrations and a broken bargeboard. The building held **low suitability** for roosting bats of species known to be present in the local area. A further survey is recommended to provide certainty regarding the likely absence or presence of roosting bats (**Section 5**).

4.3.6.3 Foraging and Commuting

Suitable habitat for foraging and commuting bats was recorded within the site. Habitats included scattered trees and hedgerows which provided linear features, although these were isolated from similar habitats in the local area. The site was therefore considered to hold **low suitability** for foraging and commuting bats.

The site is likely to be used by individual or small numbers of common light tolerant species. It is considered highly unlikely that further activity surveys would provide further or significant information which would materially affect the mitigation recommended in **Section 5**.

Lighting precautions for foraging bats are recommended in **Section 5**.

4.3.7 Hazel Dormice

The TVERC did not return any records for dormice. The site was located within the dormouse natural range and the central hedgerow contained suitable food plants such as hazel and bramble. According to aerial images, the site was isolated from any suitable habitat. The site was therefore considered to hold **negligible** potential for dormice.

No further surveys or mitigation are recommended.

4.3.8 Hedgehogs and Other BAP / Rare Species

The TVERC returned 32 any records of hedgehog *Erinaceus europaeus*. Some areas of habitat had **moderate** potential for hedgehogs, including the amenity grassland and the base of hedges for foraging, shelter and nesting. Suitable habitat was present in the adjacent garden and surrounding landscape.

General mitigation for nocturnal mammals is recommended in **Section 5**.

The TVERC returned three historic records of brown hare *Lepus europaeus*. Habitat on the site had **negligible** potential to be used by brown hares and was isolated from suitable arable habitat.

No further actions for brown hare are recommended.

The TVERC also returned records of Water Vole *Arvicola amphibious* and otter *Lutra lutra*. The site lacked any of the watercourses or ponds that these species rely on and was isolated from these features.

No further surveys or mitigation are recommended.

4.3.9 Invasive Plants

Three wall cotoneaster plants *Cotoneaster horizontalis* were recorded at the foot of the church's south elevation (Target note 3, **Appendix 1**). This invasive plant species is listed under Schedule 9 of the WCA.

Further action has therefore been recommended in **Section 5**.

5 Recommendations

This section discusses recommendations for further surveys, general mitigation, and possible enhancements in line with relevant wildlife legislation and planning policy (see **Appendix 2**).

5.1 Nocturnal Bat Survey

The Church was assessed as having low suitability for roosting bats due to a small number of features which could be used by crevice dwelling bats. One nocturnal survey (dawn re-entry or dusk emergence) is recommended between May and August in line with current guidance (Collins, 2016).

If roosting bats are identified using the building and impacts are considered likely to cause a legal offence, a further appropriately spaced bat emergence / re-entry survey between May – September and a Mitigation Licence from Natural England would be required prior to works affecting a roost.

5.2 General Mitigation

5.2.1 Hedgerows and Scattered Trees

Use the following measures to minimise impacts to hedgerows and trees:

- Retain native hedgerows and trees where possible and protect where required during construction with Heras fencing in line with *Trees in Relation to Design, Demolition and Construction – Recommendations BS5837:2012* (BSI, 2012);
- Replant any trees lost to the development with native specimens of local provenance (refer to **Appendix 3** for suitable species);
- Plant a 60cm wide “double row” hedgerow to mitigate the removal of H2, e.g. to the northern and eastern boundaries of the site. Locally occurring, native fruit and berry bearing species such as hazel *Corylus avellana*, crab apple *Malus sylvestris*., hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, guelder rose *Viburnum opulus*, gorse *Ulex europaeus* and spindle *Euonymus europaeus* are recommended. Refer to **Appendix 3** for further suitable species. Planting occasional standard trees e.g. oak *Quercus robur* or beech *Fagus sylvatica* would provide increased structural diversity; and
- Link hedgerows where possible to preserve habitat connectivity.

5.2.2 Birds

Clear the buildings and woody habitats between September and February (inclusive) to avoid the breeding bird season. Alternatively, an ecologist should check potential nesting habitat immediately before clearance that is scheduled during the breeding season (March to August inclusive). Any active nests identified must be retained *in situ* with a suitable buffer until the ecologist has confirmed that the chicks have fledged and the nest is no longer active.

5.2.3 Bats

Minimise any external lighting to reduce the risk of disturbance to any foraging and roosting bats in the local area (both during and post development), as follows:

- Direct any task lighting used during construction away from the boundary vegetation and linear features such as hedgerows;

- Set any necessary security lighting on short timers with a sensitivity to large moving objects only;
- Use hoods, cowls or directional lighting to avoid light being directed at the sky or towards the boundary vegetation;
- Limit lighting times to provide dark periods; and
- Use low pressure sodium security lights with a glass glaze, as these produce the least amount of UV light. Avoid white and blue wavelengths of the light spectrum, and keep the brightness of the lamps as low as feasibly possible (BCT, 2014; ILP, 2018).

5.2.4 Invasive Species: *Cotoneaster*

Cotoneaster horizontalis was recorded within the site (Target Note 3, **Appendix 1**). *Cotoneaster* should be manually dug out of the ground and then bagged, ensuring that none of the berries are left behind. Plants should then be disposed of at an appropriately licensed waste-disposal facility to ensure that this invasive non-native species is not spread off-site.

5.2.5 General Site Measures

Use these precautionary measures to avoid / reduce impacts to wildlife:

- Cover any trenches, holes or deep pits overnight, or use secured planks to allow any animals that fall in to escape during construction. A member of staff should check the site at the end of each working day to ensure that these provisions to protect nocturnal species (such as hedgehog) have been made; and
- Install any new fences with either a 15cm tall gap along the base or provide hedgehog links (15cm x 15cm holes at the base) at 10m intervals to allow hedgehogs and other small mammals to move freely between gardens and adjacent habitats.

5.3 Enhancements

The recommendations below are designed to enhance the value of the site for wildlife, as encouraged through the National Planning Policy Framework, and to help achieve Reading BAP targets:

- 1) Install two Schwegler 1B General Purpose Bird Boxes onto the new building. Choose boxes with a variety of nest-hole sizes to attract a variety of species (e.g. 26mm, 32mm and 55mm oval). Fit the boxes at least 3m above the ground, avoiding direct sunlight (not directly south-facing) and prevailing wind;
- 2) Install three Schwegler 1SP Sparrow Terraces onto the new church. These can be surface mounted or integrated within buildings and would provide valuable nesting sites for the declining house sparrow, which is both red listed and on the Reading Local Biodiversity Action Plan. Fit the terraces in small groups at least 3m above the ground, avoiding direct sunlight (not directly south-facing) and prevailing wind;
- 3) Install a Schwegler 1FQ Bat Box onto the new building to enhance roosting opportunities within the site for bats. Typically bat boxes are installed at least 5m above the ground facing in a southerly direction to receive sun for part of the day. Locations close to artificial lighting are to be avoided, ideally boxes will be located adjacent to commuting or foraging habitat such as lines of trees or hedgerows. Clear access for bats to the boxes should be maintained over the longer term which may involve light

intervention (e.g. the pruning of over-hanging branches or ivy). Always consult with an experienced bat ecologist regarding the installation and positioning of bat boxes;

- 4) Provide an insect house in a sheltered, warm location e.g. within any new flower beds to provide over-wintering sites for beneficial insects such as lady birds and lacewings, which typically prey on pest species;
- 5) Install a Schwegler underground bumblebee box within a secluded area on the development. Bumblebees are important pollinators in decline. Bumblebees will not sting unless in defence of their nest, so boxes should be placed in areas where they are likely to be left undisturbed, e.g. in flower beds or near to hedgerows;
- 6) Provide a hedgehog house within a sheltered location e.g. at the base of a hedgerow, or at the base of retained trees, preferably a distance away from any roads;
- 7) Create and maintain a wildflower garden within the site to provide nectaring opportunities for invertebrates such as butterflies and bees. The garden should be a minimum of 10m² and sown with a wildflower seed mix (e.g. Emorsgate EL1). For the current situation it may be possible to install this feature within the landscaped garden in north-east of the site. Prepare the ground and plant the seed mix according to the supplier's instructions, this may require importing nutrient poor soil;
- 8) Avoid use of slug pellets and use environmentally safe wood preservatives (for sheds and fences etc.); and
- 9) Create a dedicated grass heap and compost heap within the development.

6 Conclusion

The site was of negligible ecological value due to the dominance of the church building, hard-standing and amenity grassland. There was low potential for roosting bats and high potential for nesting species of garden bird.

The development can proceed with minimal impact to habitats and protected / notable species if the mitigation measures outlined within **Section 5**, and any measures arising from the bat survey, are implemented.

There is also the opportunity to enhance the development for local wildlife in the long-term by implementing the enhancement measures.

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Appendix 1 Phase I Habitat Map



Legend

- Site boundary
- Building
- Amenity grassland
- Hard-standing
- Species poor hedge
- Species rich hedge
- Scattered broad-leaved tree
- Fence
- Tall ruderal
- Target Note

Target Notes

- Target Note 1: Compost heap
- Target Note 2: Broken barge board
- Target Note 3: Wall cotoneaster

Project

The Gate, Reading New Church and Community Centre

Title

Phase 1 Habitat Map

Client

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Date 14th November 2018

Scale NTS

Project number . Drawing number

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Appendix 2 Legislation & Planning Policy

Legislation

Conservation of Habitat and Species Regulations (CHSR)

The *CHSR 2017* transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

Wildlife & Countryside Act (WCA)

The *WCA 1981*, as amended by the *Countryside and Rights of Way Act (CROW) 2000* and the *Natural Environment and Rural Communities Act (NERC) 2006*, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

Sites of Special Scientific Interest (SSSI) are designated under this Act.

Special Protection Areas (SPA) are strictly protected sites, designated under the Birds Directive, for rare and vulnerable birds and for regularly occurring migratory species.

Natural Environment & Rural Communities (NERC) Act

The *NERC Act 2006* amends the *CROW Act*, by further extending the requirement to have regard for biodiversity to all public authorities, which includes local authorities and local planning authorities and requires that the Secretary of State consults Natural England (NE) in the publication of the list of living organisms and habitat types deemed to be of principal importance in conserving biodiversity.

Relevant Protected Species Legislation

Species	Relevant Legislation	Level of Protection
Birds	Protection under the <i>Wildlife and Countryside Act, 1981 (as amended)</i> .	It is an offence to: - intentionally kill, injure or take any wild bird. - intentionally take, damage or destroy nests in use or being built (including ground nesting birds). - intentionally take, damage or destroy eggs. - Species listed on Schedule 1 of the WCA or their dependant young are afforded additional protection from disturbance whilst they are at their nests.
Bats	European protected species under the <i>Conservation of Habitats and Species Regulations 2017</i> . Full protection under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i> . Protected by the <i>Wild Mammals (Protection) Act 1996</i> .	It is an offence to: - intentionally kill, injure, or take any species of bat. - intentionally or recklessly disturb bats. - intentionally or recklessly damage destroy or obstruct access to bat roosts.
Wild Mammals	The <i>Wild Mammals (Protection) Act 1996</i> .	This makes it an offence to: crush or asphyxiate any wild mammal with intent to inflict unnecessary suffering. This may apply during site clearance for development, particularly where burrowing animals such as foxes and rabbits are present, since such animals could be crushed or asphyxiated in their burrows by heavy machinery.

National Planning Policy

National Planning Policy Framework (NPPF)

The NPPF sets out current government policy on biodiversity and nature conservation and places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning applications (MHC&LG, 2018). The NPPF also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within a development.

The NPPF works in conjunction with Government Circular 06/2005 '*Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System*.'

Regional and Local Planning Policy and Guidance

Local Structure Plans

County, District and Local Councils have Structure Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions.

Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A 'UK Post-2010 Biodiversity Framework' was published in July 2012, and succeeded the UKBAP. Much of the work for the UK BAP is now focussed at a country level due to devolution and the creation of country-level biodiversity strategies.

The UKBAP lists of priority species and habitats are still valuable reference sources. Notably, they have been used to help draw up statutory lists of priority species and habitats as required under Section 41 of the NERC act.

Reading Biodiversity Action Plan

The Local Habitat and Species Action Plans were first produced in 1999, with subsequent revisions. A list of all species for Reading are listed online at http://www.reading.gov.uk/media/5972/Reading-Biodiversity-Action-Plan/pdf/Reading_BAP_February_062.pdf (accessed 11th October 2018).

UK Post-2010 Biodiversity Framework

The UK Post-2010 Biodiversity Framework (2012) was produced in response to a change in strategic thinking following the publication of the Convention of Biological Diversity's Strategic Plan for Biodiversity 2011–2020. The Strategic Plan consists of 20 new biodiversity targets for 2020, termed the 'Aichi biodiversity targets' and the launch of the new EU Biodiversity Strategy in May 2011.

The framework sets a structure for action across the UK between now and 2020, including a shared vision and priorities for UK-scale activities to help deliver the Aichi targets and the EU Biodiversity Strategy. A major commitment by Parties to the Convention of Biological Diversity is to produce a National Biodiversity Strategy and/or Action Plan (NBSAP).

Natural England Standing Advice

Natural England has adopted national standing advice for protected species. It provides a consistent level of basic advice which can be applied to any planning application that could affect protected species. It replaces some of the individual comments that Natural England has provided in the past to local authorities.

Appendix 3 Wildlife-Friendly Planting

Table A3.1: Native and wildlife-friendly shrubs (Natural England, 2008).

Common Name	Scientific Name
Hazel	<i>Corylus avellana</i>
Elder	<i>Sambucus nigra</i>
Goat willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Dog rose	<i>Rosa canina</i>
Guelder rose	<i>Viburnum opulus</i>
Gorse	<i>Ulex europaeus</i>
Broom	<i>Cytisus scoparius</i>
Wayfaring tree	<i>Viburnum lantana</i>
Shrubby cinquefoil	<i>Potentilla fruticosa</i>
Raspberry	<i>Rubus idaeus</i>
Alder buckthorn	<i>Frangula alnus</i>
Wild privet	<i>Ligustrum vulgare</i>
Barberry	<i>Berberis × stenophylla</i>
Barberry	<i>Berberis vulgaris</i>
Bell heather	<i>Erica cinerea</i>
Bilberry	<i>Vaccinium myrtillus</i>
Black currant	<i>Ribes nigrum</i>
Blackthorn	<i>Prunus spinosa</i>
Buckthorn	<i>Rhamnus catharticus</i>
Butcher's-broom	<i>Ruscus aculeatus</i>
Cowberry	<i>Vaccinium vitis-idaea</i>
Cross-leaved heath	<i>Erica tetralix</i>
New Zealand holly	<i>Olearia macrodonta</i>
Daphne	<i>Daphne odora</i>
Dogwood	<i>Cornus sanguinea</i>
Field rose	<i>Rosa arvensis</i>
Firethorn	<i>Pyracanthus angustifolia</i>
Flowering Currant	<i>Ribes sanguineum</i>
Gooseberry	<i>Ribes uva-crispa</i>
Hebe 'Midsummer Beauty'	<i>Hebe</i> sp.
Holly	<i>Ilex aquifolium</i>
Japanese quince	<i>Chaenomeles japonica</i>
Lilac	<i>Syringa vulgaris</i>
Mexican orange	<i>Choisya ternata</i>
Mezereum	<i>Daphne mezereum</i>
Midland hawthorn	<i>Crataegus laevigata</i>
Oregon grape	<i>Mahonia aquifolium</i>
Osier	<i>Salix viminalis</i>
Portugal laurel	<i>Prunus lusitanica</i>
Privet	<i>Ligustrum ovalifolium</i>
Purple willow	<i>Salix purpurea</i>
Snowy mespilus	<i>Amelanchier canadensis</i> , <i>Amelanchier lamarckii</i>
Spindle	<i>Euonymus europaeus</i>
Spurge laurel	<i>Daphne laureola</i>
Sweet briar	<i>Rosa rubiginosa</i>

Common Name	Scientific Name
Wild privet	<i>Ligustrum vulgare</i>

Table A3.2: Native and wildlife-friendly trees (Natural England, 2008).

Common Name	Scientific Name
Pedunculate oak	<i>Quercus robur</i>
Ash	<i>Fraxinus excelsior</i>
Wych elm	<i>Ulmus glabra</i>
Whitebeam	<i>Sorbus aria</i> agg.
Rowan	<i>Sorbus aucuparia</i>
Aspen	<i>Populus tremula</i>
Apple	<i>Malus domestica</i>
Bird cherry	<i>Prunus padus</i>
Common alder	<i>Alnus glutinosa</i>
Crab apple	<i>Malus sylvestris</i>
Crack willow	<i>Salix fragilis</i>
Downy birch	<i>Betula pubescens</i>
Field maple	<i>Acer campestre</i>
Hornbeam	<i>Carpinus betulus</i>
Juniper	<i>Juniperus communis</i>
Large-leaved lime	<i>Tilia platyphyllos</i>
Small-leaved lime	<i>Tilia cordata</i>
Pear	<i>Pyrus communis</i>
Scots pine	<i>Pinus sylvestris</i>
Sessile oak	<i>Quercus petraea</i>
Silver birch	<i>Betula pendula</i>
Sweet chestnut	<i>Castanea sativa</i>
Wild cherry	<i>Prunus avium</i>
Wild service-tree	<i>Sorbus torminalis</i>
Yew	<i>Taxus baccata</i>