



Waterfront Square, Reading Berkshire

Ecological Impact Assessment (EcIA)

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The conclusions and recommendations contained in this document are based upon information gathered by TEP and provided by third parties. Information provided by third parties and referred to herein has not been independently verified by TEP, unless otherwise expressly stated in the document.

Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a qualified legal professional should be secured.

Executive Summary

Site Details	The Waterfront Square Scheme is located on Norman Place, Reading, Berkshire and lies adjacent to the River Thames. It is centred on national grid reference SU 71667 74058.
Proposals	The Scheme application boundary measures 0.54ha. A planning application was submitted in July 2024 for the demolition of the existing building known as Norman Place and the provision of up to 254 Build to Rent (BtR) residential units, with associated car parking and landscaping.
Designated wildlife sites	There is one nationally designated wildlife site within 5km of the Scheme; this is The Chilterns AONB located approximately 2.6km north-west of the Scheme.
Important Ecological Features	The habitat on site with the relative greatest value are the scattered trees. Although not considered ‘important’, areas of introduced shrub and amenity grassland are still of ecological value. The Scheme lies adjacent to the River Thames, which is a statutory main river and HPI.
Recommendations	▶ Precautionary working measures have been recommended and are set out in Section 5.0 for bats, badger, nesting birds, otter and water vole, and hedgehog to ensure that the delivery of the project remains compliant with the relevant legislation and policy. ▶ Common pipistrelle day roosts were identified in building B1, as such there is a requirement for demolition works to be completed under a bat mitigation licence. A Low Impact Class Licence (LICL) is deemed an appropriate mitigation licence in order for works to commence. ▶ Invasive plant species must be removed and disposed of following best practice guidelines in consultation with specialist contractors. ▶ A Construction Environmental Management Plan (CEMP) should be implemented during vegetation clearance and construction works to prevent pollution of retained habitats within and adjacent to the Scheme, including the River Thames.
Conclusions	The habitats on site are common and widespread, with the scattered trees being the habitat of highest value. Further ecological surveys have been recommended. Potential impacts on ecological features have been identified and appropriate mitigation proposed. Enhancement features have been recommended.

This Executive Summary is not a substitute for the full report. Refer to the full text of this report for further detail.

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1.0 Introduction

- 1.1 The Environment Partnership (TEP) was commissioned by Packaged Living (hereafter referred to as 'the Client') in October 2023 to undertake an Ecological Impact Assessment (EclA) in support of a planning application for residential development at Waterfront Square, located on Norman Place, Reading, Berkshire (hereafter referred to as 'the Scheme').
- 1.2 An Ecological Desk Study has been produced to support this EclA, reported under a separate cover (TEP Ref: 10179.001). This EclA report should read in conjunction with the Desk Study.
- 1.3 A Biodiversity Net Gain (BNG) Impact Assessment and Design Stage Report will be produced and reported under a separate cover (TEP Ref: 10179.003). This EclA should be read in conjunction with the BNG report.
- 1.4 This EclA report includes details of the methods employed and any limitations of the surveys undertaken. Results are provided with supporting maps, together with an evaluation of the ecological features within the Scheme, an assessment of the potential impacts associated with the development proposals and requirements for mitigation. The assessment has been undertaken with due consideration for current best practice guidelines (CIEEM 2017a¹, 2018²).
- 1.5 This EclA report has been updated following the completion of nocturnal bat surveys undertaken on site, details of which can be found in the Bat Survey Report (TEP Ref: 10179.005), within Annex B.

Scheme Location

- 1.6 Waterfront Square is located on Norman Place, Reading, Berkshire and lies adjacent to the River Thames. The location of the Scheme is depicted by the red line shown in Figure 1. The approximate central grid reference of the Scheme is SU 71667 74058.

¹ CIEEM (2017a) Guidelines for Ecological Report Writing, 2nd Edition. Chartered Institute of Ecology & Environmental Management

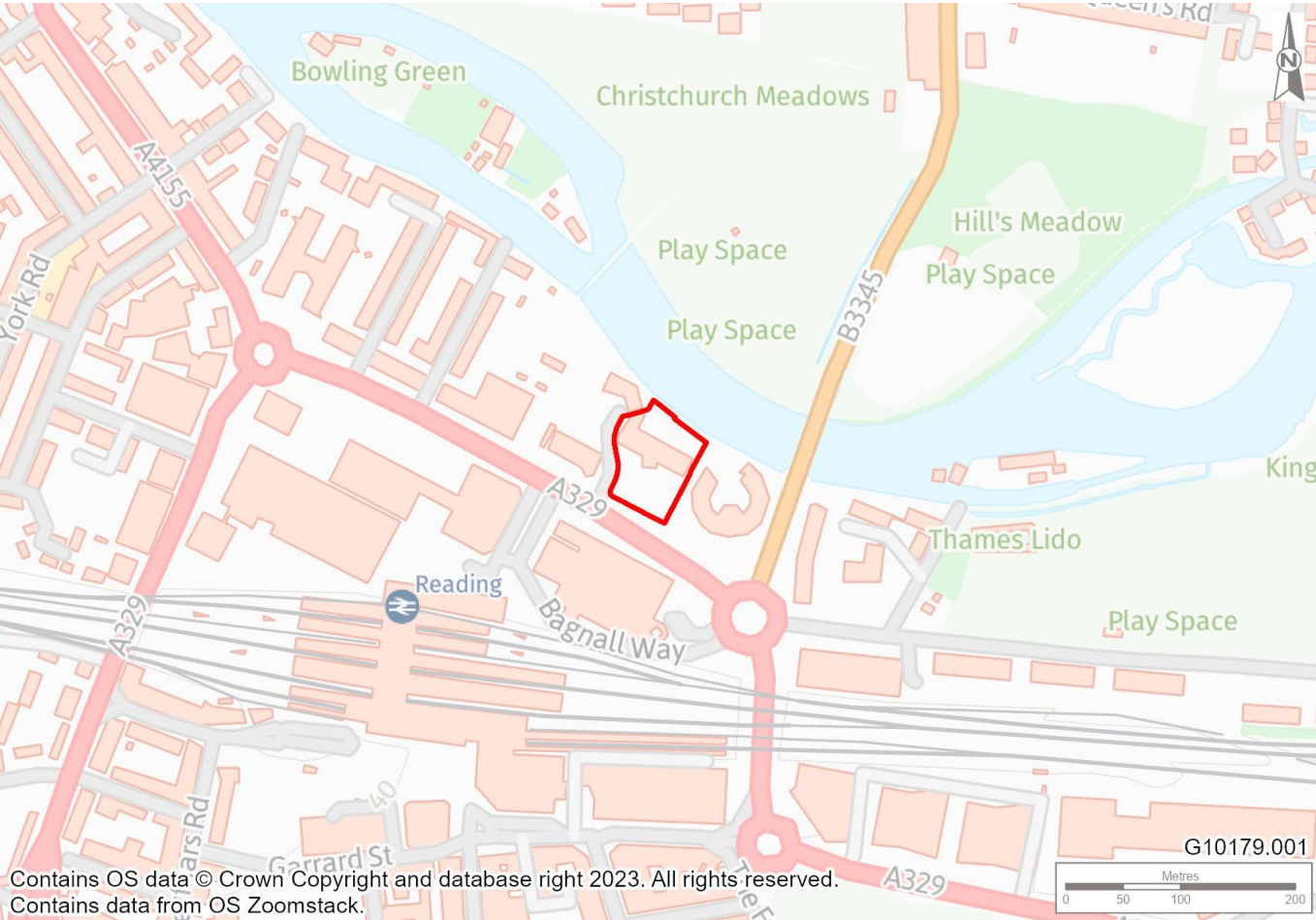
² CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester

- 1.7

The Scheme boundary measures approximately 0.54 hectares. The Scheme is formed predominately of a large building and areas of associated hardstanding. There are also small areas of introduced shrub, amenity grassland, scattered scrub, and scattered trees.
- 1.8

The wider area comprises the River Thames to the north of the Scheme, and the built up residential and commercial areas of Reading. There are areas of public open space to the north and east of the Scheme.

Figure 1: Location of Scheme



Proposals

- 1.9

A planning application was submitted in July 2024 for the demolition of the existing building known as Norman Place and the provision of up to 254 Build to Rent (BtR) residential units, with associated car parking and landscaping.

Scope

- 1.10 This ecological assessment considers potential ecological effects upon any notable habitats or species which may be present or adjacent to the Scheme.
- 1.11 This report provides baseline information on the habitats and protected species present within the Scheme, gathered during the following:
- A desktop study – December 2023;
 - Preliminary bat roost assessment and ground-level tree assessment (GLTA) for bats – December 2023; and
 - Updated Phase 1 habitat survey.
- 1.12 This report presents the findings of the EclA, the objectives of which are to:
- Detail the methods and results of the aforementioned surveys;
 - Identify features of ecological value within the Scheme, such as legally protected species or habitats of importance to biodiversity;
 - Identify any non-native invasive species within the Scheme and provide advice regarding removal or management;
 - Advise on avoidance or mitigation requirements that may be needed prior to development commencing; and
 - Provide outline recommendations for biodiversity enhancement within Scheme proposals in accordance with the National Planning Policy Framework (NPPF).

2.0 Methods

Desk Study

- 2.1 In line with current best practice (CIEEM, 2016³, 2017b⁴), information regarding designated sites, notable habitats and existing protected and notable species records of the past decade, within a 2km minimum radius of the Scheme was collated and reviewed to inform this ecological assessment. Further detail regarding ecological zones of influence (EZOI) applied for different ecological features and the sources of information included are presented in the Ecological Desk Study (TEP Ref: 10179.001).
- 2.2 In brief, key data sources included Natural England (open source data), Environment Agency (open source data); Reading Borough Council Local Plan and other relevant planning documentation, Thames Valley Environmental Records Centre (TVERC) and Reading Biodiversity Action Plan and a review of relevant species records.
- 2.3 Statutory designated wildlife sites were searched for as follows (EZOI applied for each is indicated in brackets):
- Ramsar sites (10km);
 - National Sites Network (10km), includes Special Areas of Conservation (SAC) and Special Protection Areas (SPA);
 - Site of Special Scientific Interest (SSSI) (5km);
 - National Nature Reserve (NNR) (5km); and
 - Marine Nature Reserve (MNR) (5km);
 - Local Nature Reserves (LNR) (2km).
- 2.4 Non-statutory designated wildlife sites were searched for within 2km of the Scheme and include:

³ CIEEM (2016) Guidelines for Accessing and Using Biodiversity Data. Chartered Institute of Ecology & Environmental Management

⁴ CIEEM (2017b) Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology & Environmental Management

- Local Wildlife Sites (LWS); and
- Potential Local Wildlife Sites (pLWS).

2.5 Notable habitats were searched for within and adjacent to the Scheme. Notable habitats may include those listed under any of the following:

- Ancient woodland;
- Main rivers;
- Habitats of principal importance (HPI) as listed by the requirements of Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006⁵; and
- Local Biodiversity Action Plan Habitats (LBAP).

2.6 Pre-existing records for notable species were reviewed from the combined data sources, where found from within approximately 2km of the Scheme. Notable species include those listed under any of the following:

- Protected animal species under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (EPS);
- Protected bird species under Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
- Protected animal species under Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
- Protected plant species under Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8);
- Invasive non-native plant species under Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
- Invasive non-native species under the Invasive Alien Species (Enforcement and Permitting) Order 2019 (IAS);
- Species of principal importance (SPI) as listed by the requirements of S41 of NERC;

⁵ Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

- Protection of Badgers Act 1992 (PBA);
- Red and Amber listed Birds of Conservation Concern (BRd/BAm); and
- Reading Biodiversity Action Plan Species.

Limitations

- 2.7 Species records can provide a useful indication of the species present within the search area, although the absence of a given species from the dataset cannot be taken to represent actual absence.

Habitats and Flora

Habitat Survey

- 2.8 An extended Phase 1 habitat survey was completed by TEP Ecologists, certified to Level 3 under the Field Identification Skills Certification⁶. The survey was completed on 29th November 2023. The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC, 2010⁷) and Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017b). The method records the habitat types present, within the survey route, based on the JNCC/UKHab descriptions. Plant species were identified in accordance with the New Flora of the British Isles (Stace, 2019⁸) and recorded as target notes using the DAFOR⁹ scale, where relevant.
- 2.9 The survey was expanded to include off-site habitats adjacent to the Scheme in order to provide context. Adjacent habitats were viewed from accessible locations within the Scheme boundary.
- 2.10 An updated Phase 1 habitat survey was completed by a suitably qualified TEP Ecologist on 15th May 2024. Habitats are displayed with the Scheme boundary on Drawing G10179.007B.

⁶ Field Identification Skills Certificates are issued by the Botanical Society of the British Isles. The test assesses botanical proficiency on a scale from 1 (beginner) to 7 (national expert).

⁷ JNCC (2010) Handbook for Phase 1 Habitat Survey – a technique for environmental audit

⁸ Clive Stace (2019) New Flora of the British Isles

⁹ DAFOR = Dominant, Abundant, Frequent, Occasional & Rare

Limitations

- 2.11 Any ecological survey represents a snapshot of ecological conditions at the time of survey; ecological conditions may change over time. Efforts to identify dominant plant species for the purposes of characterising broad habitat types do not constitute a detailed botanical survey.

Fauna

- 2.12 Ordnance Survey maps and aerials were reviewed to identify potentially suitable habitats off site within influence (e.g., dispersal distances for mobile species) of the Scheme. The Ecological Desk Study identified any pre-existing records for protected and notable species within 2km of the Scheme.
- 2.13 The habitat survey included an extended assessment of the habitats present for their potential to support notable or protected wildlife species, as described at paragraph 2.6. Any signs indicating the presence of these species were recorded.
- 2.14 In combination, this data informed the ecological evaluation of the Scheme and impact assessment for the proposed development.

Bats

Preliminary Roost Assessment of Buildings

- 2.15 A daytime external and internal assessment of the built structures within the Scheme boundary was undertaken to assess their suitability to support roosting bats. The assessment was completed in conjunction with the Phase 1 habitat survey by a TEP Senior Ecologist in possession of a Level 2 Natural England bat survey licence on 29th November 2023 in accordance with the Bat Conservation Trust (BCT) Survey Guidelines (2023)¹⁰.
- 2.16 The survey was aided by a high powered torch, close focussing binoculars, and an endoscope allowing features providing potential bat access or roosting places to be noted. Areas where bat droppings may accumulate, such as on the ground, ledges, and

¹⁰ Collins, J (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn.). The Bat Conservation Trust, London

walls, were also inspected. Any features suitable for use by roosting bats were identified and/or evidence of bat activity were noted.

2.17 Building features commonly associated with providing bats with roosting opportunities include the following:

- Broken/slipped roof tiles including ridge tiles;
- Fascia's and soffit boxes;
- Gaps in masonry;
- Loose fitting cladding/weatherboarding (wooden/tile);
- Loose lead flashing; and
- Gaps around window and door frames.

2.18 Physical evidence of use by bats may include the following:

- Live or dead bats;
- Bat droppings;
- Feeding remains (e.g., stripped moth or butterfly wings);
- Urine staining; and
- Fur oil staining.

2.19 Following this assessment, the buildings were categorised in accordance with the criteria for roost assessments identified in the BCT Guidelines (2023), and as shown in Table 1.

Table 1: Bat Roosting Habitat Categories (BCT, 2023)

Roost Category	Description
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e., a complete absence of crevices/suitable shelter at all ground/underground levels).

Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats).
Moderate	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 but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High	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. These structures have the potential to support high conservation status roosts, e.g., maternity or classic cool/stable hibernation site.

Limitations

- 2.20 The absence of signs of bats within a structure does not confirm absence of bats. Signs may deteriorate over time and/or be located within areas that are not accessible to surveyors (for example, under a roof tile).
- 2.21 Internal access was not possible into buildings B2 and B3 at the time of the initial survey. Therefore, a precautionary approach has been taken when categorising their suitability to support roosting bats. This report will be updated once further nocturnal roost surveys have been completed.

Ground Level Tree Assessment (GLTA)

- 2.22 A daytime assessment was undertaken of all trees within, and adjacent to, the Scheme boundary to confirm or estimate their suitability to support roosting bats and to search for evidence to determine the presence/absence of roosting bats. The GLTA was undertaken in conjunction with the Phase 1 habitat survey on 29th November 2023 by a TEP Senior Ecologist who holds a Level 2 Natural England bat licence.
- 2.23 The survey was aided using close focussing binoculars, a high-powered torch, and an endoscope.
- 2.24 Most tree roosts are created by one or a combination of the following:
- Old woodpecker holes;
 - Splits in trunk, bough or large branches;
 - Rot holes in trunk, bough or large branches;
 - Holes formed by two boughs or branches growing in contact;
 - Loose or lifting bark; and
 - Underneath a covering of dense latticed creeper, usually ivy (*Hedera helix*).
- 2.25 Physical evidence of use by bats are detailed in Paragraph 2.18.
- 2.26 Following this assessment, the trees were categorised in accordance with the criteria for roost assessments identified in the BCT Guidelines (2023), and as shown in Table 2.

Table 2: Bat roost habitat suitability categorisation descriptions for trees

Tree Habitat Categorisation	Description	PRF Categorisation (Estimated or Confirmed)	
None	Either no PRFs in the tree or highly unlikely to be any.	No PRFs are present.	
FAR (Further Assessment Required)	Further assessment (at height) required to establish if PRFs are present in the tree.		
PRF (Potential Roost Feature)	A tree with at least one PRF present.	PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.

Tree Habitat Categorisation	Description	PRF Categorisation (Estimated or Confirmed)	
		PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

2.27 Nocturnal roost surveys were undertaken of the three buildings on site; details of the methods deployed are found within the Bat Survey Report (TEP Ref: 10179.005), within Annex B.

Ecological Assessment Process

2.28 This EcIA follows the published guidelines (CIEEM, 2018) and accepted best practice approach (BS42020:2013¹¹) of the mitigation hierarchy whereby impacts are first avoided or, where this is not possible, reduced or mitigated or, as a last resort, compensated.

2.29 In summary, the following procedure was undertaken during this EcIA:

- Describe the baseline and identify important ecological features;
- Describe important ecological features and identify those which may potentially be affected by the Scheme;
- Identify potential impacts upon important ecological features and characterise the effect of such impacts (in respect of biophysical changes and taking account of relevant aspects of ecosystem structure or function);
- Incorporate measures to avoid or reduce these effects;
- Determine whether residual ecological effects are considered significant after avoidance or mitigation;
- Identify appropriate compensation measures to offset significant residual effects; and
- Identify opportunities for ecological enhancement.

¹¹ British Standards Institution (2013) BS 42020:2013: Biodiversity — Code of practice for planning and development. BSI Standards Limited, London

- 2.30 Important ecological features are identified and valued, ecological impacts are characterised and assessed, and recommendations for appropriate mitigation, compensation and enhancement are made, in accordance with CIEEM guidance.
- 2.31 BS42020:2013 defines a significant effect as one “which is important, notable, or of consequence, having regard to its context”. CIEEM describes significance as “a concept related to the weight that should be attached to effects when decisions are made”. CIEEM defines an ecological effect as significant if it is “sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project”.
- 2.32 BS42020:2013 sets out a practical approach to determining the significance of an ecological effect, applicable at all levels of decision making in legal and policy terms, as follows:
- Will the effect on biodiversity influence the balance of planning considerations and therefore the decision as to whether planning permission is likely to be refused or granted; and
 - If planning permission is granted, is the effect important enough to warrant the use of planning conditions and/or obligations to guarantee proposed measures or to impose restrictions, or to seek further requirements (e.g. for mitigation, compensation, enhancement, monitoring or management).
- 2.33 Significance is therefore assessed on a case-specific basis according to the importance of the ecological feature (wildlife site, habitat, or species) within the conservation hierarchy, and the effect upon it.

Assumptions

- 2.34 Information provided by third parties, including publicly available information, is assumed to be correct at the time of publication.

3.0 Results

Planning Context

- 3.1 The NPPF at Chapter 11: Conserving and Enhancing the Natural Environment requires that development delivers net gains in biodiversity in addition to minimising the impacts on biodiversity. The chapter highlights the need to protect and enhance valued landscapes, geological conservation interests and soils, as well as recognising the wider benefits of ecosystems.
- 3.2 The Reading Local Plan was adopted by Reading Borough Council in November 2019. Relevant extracts of local planning policy are provided in the Ecological Desk Study (TEP Ref: 10179.001). The following policies are of relevance to the Scheme and biodiversity and nature conservation:
- Policy EN11 – Waterspaces;
 - Policy EN12 – Biodiversity and The Green Network;
 - Policy EN13 – Major Landscape Features and Areas of Outstanding Natural Beauty; and
 - Policy EN14 – Trees, Hedges and Woodland.
- 3.3 The Scheme is not allocated for biodiversity purposes. However, the Scheme lies adjacent to the River Thames which has been identified within Policies EN12 and EN13 of the Local Plan.
- 3.4 The Tree Strategy (172 b) sets out the approach to the planting, management, and maintenance of trees in Reading and provides further information to support Policy EN14 of the Local Plan.
- 3.5 Under the National Planning Policy Framework 2023¹² (NPPF), opportunities to achieve biodiversity net gain within developments should be pursued.

¹² National Planning Policy Framework (2023). Department for Levelling Up, Housing and Communities.
<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Wildlife Sites

Statutory Wildlife Sites

- 3.6 Full details regarding designated sites are provided within the Ecological Desk Study (TEP Ref: 10179.001).
- 3.7 There are no internationally designated wildlife sites within 10km of the Scheme. There is one nationally designated site relevant to wildlife within 5km of the Scheme; this is The Chilterns AONB located approximately 2.6km north-west of the Scheme. There are no locally designated wildlife sites within 2km of the Scheme.
- 3.8 SSSI Impact Risk Zones (IRZ) highlight the potential for effects on a SSSI if certain types of development are planned within a specified radius of it. The Scheme does not fall within any IRZs.

Non-Statutory Wildlife Sites

- 3.9 There are 10 non-statutory designated wildlife sites within 2km of the Scheme, two of which are located within 1km of the Scheme. These are:
 - The Coal, Kennetmouth and Kings Meadow East (Berkshire LWS) – located approximately 850m east of the Scheme; and
 - Cow Lane Depot (Berkshire LWS) – 960m south-west of the Scheme.
- 3.10 The remaining eight non-statutory designated wildlife sites are located at least 1km from the Scheme boundary, details of which are provided within the Ecological Desk Study (TEP Ref: 10179.001). Given the small scale and nature of the proposals and distances concerned, no significant impacts would be anticipated to arise upon any of the non-designated wildlife sites and they are therefore scoped out from further assessment.

Habitats and Flora

Pre-existing Data

- 3.11 The River Thames is located adjacent to the northern Scheme boundary and is identified as a statutory main river and HPI. This relates in part to the marginal vegetation and other riparian habitats that form part of the river system. No other HPI are located on or immediately adjacent to the Scheme.

- 3.12 The nearest priority habitat is an area of deciduous woodland located approximately 235m east of the Scheme.
- 3.13 Flora records were returned within 2km of the Scheme as follows:
- Protected and notable species: Bluebell – WCA8
 - ▶ English sticky eyebright - SPI
 - Non-native invasive species^{13, 14}: Canadian waterweed – WCA9
 - ▶ Himalayan balsam – WCA9
 - ▶ Japanese knotweed – WCA9
 - ▶ New Zealand pigmyweed – WCA9
 - ▶ Nuttall’s waterweed – WCA9
- 3.14 Habitats present within and immediately adjacent to the Scheme are described below and illustrated in Drawing G10179.007B. Target notes (TN) and photographs illustrative of the habitat/feature described are provided below. Plant species abundance has been assessed using the DAFOR scale; each species has been assigned to one of the following abundance categories: Dominant (D), Abundant (A), Frequent (F), Occasional (O) and Rare (R).

Hardstanding (TN1)

- 3.15 The majority of the site is comprised of hardstanding (Figure 2, Figure 3), formed of block paving and gravel pathways. The hardstanding is interspersed with artificial lighting and introduced shrub (TN2).

¹³ As listed on Schedule 9 of the Wildlife and Countryside Act 1981 as amended

¹⁴ Statutory Instruments 2019 No. 527 The Alien Species (Enforcement and Permitting) Order 2019

Figure 2: Hardstanding in the south of the site (TN1)



Figure 3: Hardstanding in the north of the site (TN1)



Introduced Shrub (TN2)

- 3.16 Areas of introduced shrub are located throughout the Scheme (Figure 4), comprised predominantly of ornamental species such as a firethorn species *Pyracantha* sp. (A), spurges *Euphorbia* sp. (F), David viburnum *Viburnum davidii* (F), box honeysuckle *Lonicera nitida* (O), and daisy bush *Brachyglottis greyi* (R). Some native species were also recorded including cherry laurel *Prunus laurocerasus* (O) elder *Sambucus nigra* (R), sycamore *Acer pseudoplatanus* (R) and ivy (R).
- 3.17 Areas of introduced shrub extend off site to the east of the eastern site boundary.

Figure 4: Introduced Shrub (TN2)



Amenity Grassland (TN3)

- 3.18 Small areas of amenity grassland are present in the northern section of the Scheme (Figure 5). The average sward height was approximately 5cm, the grass was covered in leaf litter with poor species diversity. Species recorded include daisy *Bellis perennis* (A), meadow-grass *Poa sp.* (A), mosses (F), fescue species *Festuca sp.* (O), creeping buttercup *Ranunculus repens* (O), dove's-foot crane's-bill *Geranium molle* (O), cow parsley *Anthriscus sylvestris* (O), creeping cinquefoil *Potentilla reptans* (R), common ragwort *Jacobaea vulgaris* (R), bristly oxtongue *Helminthotheca echioides* (R), creeping thistle *Cirsium arvense* (R), and yarrow *Achillea millefolium* (R).
- 3.19 Areas of amenity grassland extend off site to the west of the western site boundary.

Figure 5: Amenity Grassland (TN3)



Scattered Trees

- 3.20 A total of 22 scattered broad-leaved trees are present across the Scheme (Figure 6), most of which are immature and semi-mature with a maximum height of 8-10m. Species recorded on site include hornbeam *Carpinus betulus*, lime *Tilia sp.*, rowan, Norway maple *Acer platanoides*, goat willow *Salix caprea*, dawyck beech *Fagus sylvatica* 'Dawyck' and pear *Pyrus sp.*
- 3.21 Scattered broad-leaved were also recorded off site along the northern and eastern site boundaries. Species recorded off site include ash *Fraxinus excelsior*, field maple *Acer campestre*, and birch *Betula sp.*

Figure 6: Scattered Trees



Other Habitats

- 3.22 Two small patches of scattered scrub are present within the amenity grassland (TN3) in the north-east of the Scheme (Figure 7).
- 3.23 There are three buildings present on site (B1-B3), details of which are provided within the Preliminary Roost Assessment for bats later in the report.
- 3.24 There is a 1m high wall and fence line forming the northern and eastern Scheme boundaries and a metal fence along part of the western Scheme boundary.

Figure 7: Scattered Scrub



Notable or Invasive Flora

- 3.25 Five distinct areas of the non-native invasive small-leaved cotoneaster *Cotoneaster microphyllus* (WCA9) (Figure 8) were recorded within the introduced shrub (TN2), as illustrated on the Phase 1 map (Drawing Ref: G10179.007B).

Figure 8: Small-leaved cotoneaster (WCA9)



Off-site Habitats

- 3.26 The updated Phase 1 habitat survey undertaken in May 2024 was extended to include off-site habitats along the River Thames. Species recorded along the southern bank of the River Thames, immediately adjacent to the Scheme, include yellow-flag iris *Iris pseudacorus* (A), pendulous sedge *Carex pendula* (F), hemlock water dropwort *Oenanthe crocata* (O) and white water-lily *Nymphaea alba* (R). No important marginal vegetation was recorded along the River Thames in proximity to the Scheme (Figure 9).

Figure 9: Off-site habitats



Habitat Connectivity

- 3.27 Habitats on site are not directly connected to any off-site habitats, being surrounded on all sides by hardstanding and buildings.
- 3.28 The River Thames to the north of the Scheme is an important wildlife corridor which provides connectivity to further off-site habitats.

Fauna

Amphibians

- 3.29 One record of great crested newt (GCN) *Triturus cristatus* (EPS, WCA5, SPI) was returned by TVERC within 2km of the Scheme, located approximately 430m north-east of the Scheme.
- 3.30 A review of Natural England's open datasets did not return any class licence returns for GCN or pond survey data between 2017 and 2019 within 2km of the Scheme.
- 3.31 There are no ponds within 500m of the Scheme however there are branches of water extending off the River Thames which may provide suitable breeding habitat for GCN. These are however separated from the Scheme by the River Thames which acts as a barrier to amphibian dispersal. There is sub-optimal terrestrial habitat within the Scheme boundary in the form of the introduced shrub. The nearest area of suitable terrestrial habitat is Kings Meadow, located over 250m east from the Scheme boundary. GCN have therefore been scoped out for further assessment.

- 3.32 A total of 12 records of common toad *Bufo bufo* (SPI) were returned within 2km of the Scheme, the nearest of which is located approximately 1.4km north-east of the Scheme.
- 3.33 Given the location of the Scheme within the wider landscape, the lack of suitable terrestrial and breeding habitat within and adjacent to the Scheme and the distance of the nearest record, it is considered unlikely that common amphibians are present within the Scheme boundary and this species group is therefore scoped out for further assessment.

Badger

- 3.34 A total of 54 records of Eurasian badger *Meles meles* (PBA) were returned by TVERC within 2km of the Scheme, the nearest of which is located approximately 290m east of the Scheme.
- 3.35 There is no suitable habitat on site or adjacent to the Scheme for sett creation, however there is limited potential for badger to use the site for foraging and ranging.

Bats

- 3.36 A total of 988 bat records were returned by TVERC within 2km of the Scheme for the following species:
- Bat species (EPS, WCA5, SPI)
 - Brown long-eared bat (EPS, WCA5, SPI)
 - Common pipistrelle (EPS, WCA5)
 - Daubenton's bat (EPS, WCA5)
 - Lesser noctule (EPS, WCA5)
 - Long-eared bat species (EPS, WCA5, SPI)
 - Myotis bat species (EPS, WCA5, SPI)
 - Nathusius's pipistrelle (EPS, WCA5)
 - Natterer's bat (EPS, WCA5)
 - Noctule bat (EPS, WCA5, SPI)
 - Pipistrelle bat species (EPS, WCA5, SPI)
 - Serotine (EPS, WCA5)
 - Soprano pipistrelle (EPS, WCA5, SPI)

- Western barbastelle (EPS, WCA5, SPI)
- Whiskered/Brandt's bat (EPS, WCA5)

- 3.37 Of these records, 11 bat roosts were returned by TVERC within 2km of the Scheme, nine of which were located at least 1.5km from the Scheme. A bat roost, comprising one unidentified flying bat, was recorded approximately 150m west of the Scheme at national grid reference SU 71537410. A record of a Daubenton's bat *Myotis daubentonii* roost comprising at least 100 individuals was returned by TVERC, located approximately 670m west of the Scheme at national grid reference SU 7174.
- 3.38 A review of Natural England's open datasets for granted European protected species mitigation (EPSM) licences returned 11 licences for bats within 2km of the Scheme, details of which are provided within the Ecological Desk Study (TEP Ref: 10179.001). The nearest licence was for Daubenton's bats (licence ref: 2017-28045-EPS-MIT) dated from 8th March 2017 to 8th March 2022 located approximately 185m south-east of the Scheme.
- 3.39 Full details of the bat surveys undertaken on the buildings on site, including the results, are detailed within the Bat Survey Report (TEP Ref: 10179.005), within Annex B. A summary is provided below.

Preliminary Roost Assessment of Buildings

Building B1

- 3.40 The main building on site, Norman Place and identified as building B1, comprised a large four-storey commercial building of brick construction with a pitched slate tile roof (Figure 10). The building was found to be recently vacated and in a good state of repair at the time of survey. The doors, windows, and plastic soffit box were in a good state of repair offering no potential access points for bats at the time of survey.

Figure 10: Building B1 – Southern aspect

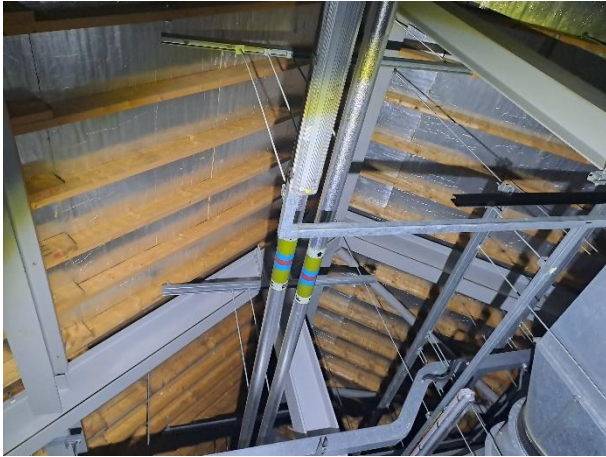


- 3.41 Minor gaps under limited numbers of roof tiles and one missing ridge tile were identified (Figure 11). Internally the fourth floor was open to the roof which had a wooden support structure and was lined with well-sealed insulation boards (Figure 12). No potential access points from gaps in roof tiles into the interior of the building for bats were identified.

Figure 11: Building B1 – A lifted roof tile on the northern aspect



Figure 12: Building B1 – Internal roof structure



- 3.42 The gaps under roof tiles offer roosting opportunities for individual or small numbers of crevice-dwelling bat species. Building B1 was therefore assessed as having Low suitability to support roosting bats.

Building B2

- 3.43 Building B2 comprised a single storey brick-built garage with a pitched slate roof (Figure 13).

Figure 13: Building B2 – Western aspect



- 3.44 Building B2 was in a good state of repair with no lifted or missing roof tiles identified or gaps in the soffit.
- 3.45 Gaps at the top of the garage doors were present allowing potential access to bats. A view through the gap at the top of the door confirmed that the building is open to the roof

inside and was supported with wooden supports although the material lining the roof could not be identified.

- 3.46 Street lighting is located immediately adjacent to building B2 which would be likely to inhibit bat activity making the building unsuitable for a maternity or hibernation roost.
- 3.47 As no internal access was possible during the PRA, building B2 was assessed as having moderate suitability on a precautionary basis.

Building B3

- 3.48 Building B3 comprised a single storey brick-built substation with a pitched slate roof (Figure 14).

Figure 14: Building B3 – Southern and western aspects



- 3.49 Minor gaps under roof tiles were identified on the northeast corner offering potential roosting opportunities for crevice dwelling bats.
- 3.50 Gaps above the door on the northern aspect and a gap on the southern aspect created by the damaged metal covering provide access to the interior for bats.
- 3.51 Street lighting is located immediately adjacent to building B2 which would be likely to inhibit bat activity making the building unsuitable for a maternity or hibernation roost.
- 3.52 As no internal access was possible during the PRA, building B3 was assessed as having moderate suitability on a precautionary basis.

Nocturnal Roost Assessment of Buildings

- 3.53 Nocturnal bat surveys were undertaken on Buildings B1, B2 and B3 between June and August 2024. Following the first bat survey, visit buildings B2 and B3 were downgraded to low suitability. No roosts were identified in either of these buildings.
- 3.54 A bat emergence was, however, recorded from building B1. As such, the building was therefore upgraded and three nocturnal surveys were undertaken on the building. These surveys were required to aid in roost characterisation and species identification.
- 3.55 Confirmed roosting was recorded within building B1 during all three nocturnal surveys and three access points/roost locations have been identified. These are the soffit boards in the south east corner of the building; the corner of the roof on the balcony on the northern aspect; and the roof tiles on the southern aspect of the building, as shown in Figures 15-17 below.



Figure 15: Soffit on south-east corner



Figure 16: Roof of balcony on northern aspect



Figure 17: Roof tiles on southern aspect

- 3.56 Small numbers of common pipistrelle were recorded emerging from the building and so it is likely that the roosts recorded are day roosts. Day roosts are roosts where small numbers of bats, usually males, will rest or shelter in the day over the summer.

Ground Level Tree Assessment (GLTA)

- 3.57 All trees within the Scheme were categorised as 'None' as no potential roost features or trees requiring further assessment were identified.

Foraging and Commuting

- 3.58 The majority of the Scheme does not provide suitable habitat for foraging and commuting bats and is subject to frequent disturbance from noise and lighting. The off-site trees and introduced shrub on the eastern boundary are less disturbed by light and may offer opportunities for commuting and foraging bats although the habitat is limited in extent.
- 3.59 The adjacent River Thames provides a suitable foraging and commuting corridor for bats, with further suitable habitat to the north of the river.

Birds

- 3.60 Over 2,100 species records were returned by TVERC within 2km of the Scheme. A range of notable bird species were recorded including black redstart *Phoenicurus ochruros* (WCA1, BAm), red kite *Milvus milvus* (WCA1), song thrush *Turdus philomelos* (SPL, BAm), and swift *Apus apus* (BRd).
- 3.61 The following bird species were recorded as incidental sightings during the Phase 1 habitat survey:
- Blue tit
 - Grey wagtail (BAm)
 - Pied wagtail
 - Red kite (WCA1)
 - Robin
 - Woodpigeon (BAm)
 - Wren (BAm)
- 3.62 The on-site introduced shrub habitat and scattered broad-leaves trees provide suitable habitat for nesting birds. The amenity grassland offers sub-optimal habitat for foraging. The remaining habitats on site are unsuitable for nesting or foraging birds.
- 3.63 There are no large areas of open grassland or water on site suitable for use by wintering wildfowl or waders. The adjacent River Thames may provide suitable habitat for common and disturbance-tolerant river birds such as mallard *Anas platyrhynchos* and moorhen *Gallinula chloropus*.

Hazel Dormouse

- 3.64 Three records of hazel dormouse *Muscardinus avellanarius* (EPS, WCA5, SPI) were returned by TVERC within 2km of the Scheme.
- 3.65 There is no suitable habitat within the Scheme to support hazel dormouse. Furthermore, the site is isolated and not connected to further suitable habitat in the wider landscape. Hazel dormouse is therefore scoped out for further assessment.

Invertebrates

- 3.66 Numerous records for invertebrates were returned by TVERC within 2km of the Scheme.
- 3.67 The on-site introduced shrub has limited potential to support some of the more widespread invertebrate species. The off-site River Thames corridor may support more notable species of invertebrates. However, given that the Scheme is dominated by hardstanding, it is considered unlikely that the Scheme can support a significant assemblage of invertebrates. Invertebrates are therefore scoped out for further assessment.

Reptiles

- 3.68 58 records of slow-worm *Anguis fragilis* (WCA5, SPI), 16 records of grass snake *Natrix helvetica* (WCA5, SPI), three records of common lizard *Zootoca vivipara* (WCA5, SPI) and one record of adder *Vipera berus* (WCA5, SPI) were returned by TVERC within 2km of the Scheme. The nearest record was that of a slow-worm located approximately 880m north-west of the Scheme.
- 3.69 The Scheme is dominated by hardstanding which is unsuitable for reptiles. The on-site introduced shrub and amenity grassland provide opportunities for foraging and commuting reptiles, although they are limited in extent. There is no suitable habitat on site for hibernation.
- 3.70 Given the location of the Scheme within a heavily built up area, and the presence of more suitable habitat within the wider landscape, it is considered unlikely that common reptiles are present within the Scheme. Reptiles are therefore scoped out for further assessment.

Otter and Water Vole

- 3.71 17 records of Eurasian otter *Lutra lutra* (EPS, WCA5, SPI) and one record of European water vole *Arvicola amphibius* (WCA5, SPI) were returned within by TVERC within 2km

of the Scheme, the nearest records located approximately 175m north-east and 1.65km east of the Scheme, respectively.

- 3.72 There is no suitable habitat on site to support otter or water vole.
- 3.73 Although the Scheme lies adjacent to the River Thames, the southern banks of the river adjacent to the Scheme are highly modified with engineered concrete banks with boat moorings with no opportunities for burrow creation for water vole or holt creation for otter within influencing distance of the site (8m for water vole, and 30m for otter). There is the potential for both species to use the river for commuting however there are significant levels of disturbance from human and boat activity. Furthermore, the Scheme is positioned at a higher elevation than the river and is separated from the water's edge by a paved footpath, which experiences high levels of activity, and a brick wall and fence.

Other Relevant Species

- 3.74 63 records of European hedgehog *Erinaceus europaeus* (WCA5, SPI) were returned by TVERC within 2km of the Scheme, the nearest of which is located approximately 310m north-west of the Scheme.
- 3.75 The on-site introduced shrub and amenity grassland offer suitable habitat for foraging and ranging hedgehog, however there is no suitable habitat for hibernation.

4.0 Assessment of Potential Impacts

- 4.1 This section assesses the potential impacts on ecological features associated with the Scheme described in Section 1.0.
- 4.2 Consideration is given to the 'mitigation hierarchy', i.e. that impacts are first avoided or where this is not practicable, mitigated and as a final resort, compensated (off-set).

Wildlife Sites

Statutory Wildlife Sites

- 4.3 There is one nationally designated wildlife site within 5km of the Scheme; this is The Chilterns (AONB) located approximately 2.6km north-west of the Scheme. Given the small scale nature of the proposals and the distance to the designated site, no direct impacts are anticipated on the designated site. Habitats within the AONB are hydrologically connected to the stretch of river adjacent to the Scheme, therefore there is the potential for indirect impacts on the AONB through pollution as a result of surface run-off.

Habitats and Flora

Notable Habitats

- 4.4 A 10m buffer zone is proposed between the River Thames and the proposed development, therefore no direct impacts on the river are anticipated. There is the risk of indirect impacts on the River Thames through pollution during the construction phase and post-development.
- 4.5 During the updated Phase 1 habitat survey undertaken in May 2024, it was concluded that the bankside vegetation along the southern bank of the River Thames is of minimal value and would not be majorly impacted by the level of shading envisaged from the proposed development. Therefore, no impacts are anticipated on important marginal vegetation and is thus not considered further in this report.

Other Habitats

- 4.6 All areas of introduced shrub, scattered scrub and amenity grassland will be lost as a result of the development. Of the 22 trees recorded on site, 21 are proposed to be lost.

Notable Flora

- 4.7 No notable or protected plant species were recorded within or adjacent to the Scheme; therefore, no impacts are anticipated in relation to notable flora, and they will not be considered further in this report.

Invasive Flora

- 4.8 Invasive non-native species small-leaved cotoneaster was recorded in five locations within the Scheme boundary during the Phase 1 habitat survey. Therefore, there is the potential for the spread of this invasive species if it is not removed appropriately.

Fauna

Badger

- 4.9 There is no suitable habitat within the Scheme for sett creation, however there is the potential for badger to use the site for foraging and ranging. Therefore, there is the potential for impacts to foraging and ranging badger if present on site.

Bats

- 4.10 Buildings B2 and B3 were assessed as having Low suitability and no roosts were observed in these buildings.
- 4.11 Building B1 has been found to support three common pipistrelle day roost sites, with small numbers of bats observed emerging and re-entering. Therefore, there is the potential for killing or injury of bats and the loss of bat roosts through the demolition of the buildings within the Scheme.
- 4.12 Demolition of these buildings will result in the loss of three low conservation status roosts of a common species. There will be a requirement for these works to be undertaken under a bat mitigation licence and it is anticipated that this could be a Low Impact Class Licence (LICL). There are no trees on or adjacent to the Scheme with suitability for roosting bats, therefore no impacts are anticipated as a result of tree removal.
- 4.13 Habitats on site are sub-optimal for foraging and commuting, therefore the loss of on-site habitats are unlikely to have a significant impact on foraging and commuting bats. However, the adjacent River Thames is an important corridor for foraging and commuting bats, and therefore there is the potential for adverse impacts to foraging and commuting bats as a result of increased levels of artificial lighting.

Birds

- 4.14 There is a risk of damage or destroying a nest if tree felling or lopping or vegetation clearance is carried out in the nesting period (generally considered to be between March to August inclusive, although weather conditions will influence this period and some species commonly nest outside this period).

Otter and Water Vole

- 4.15 Overall, it is considered unlikely that otter or water vole are present within the Scheme or the adjacent stretch of river. In the unlikely event commuting or foraging otter or water vole are present within influencing distance of the Scheme, no direct impacts are anticipated; there is however the potential for indirect impacts through pollution of the river during the construction phase in the absence of mitigation.

Other Relevant Species

- 4.16 There is suitable habitat within the Scheme to support foraging and ranging hedgehog; therefore, there is the potential for harm or injury to this species if present on site.

5.0 Mitigation and Enhancement

- 5.1 This section describes appropriate and proportionate measures for impact avoidance, mitigation and enhancement required or recommended to address the potential ecological effects described in Section 4.0.

Wildlife Sites

Non-statutory Wildlife Sites

- 5.2 LWSs are non-statutory designations made by local authorities under the Town and Country Planning system and are a material consideration when planning applications are being determined.

Avoidance and Mitigation Required

- 5.3 Standard pollution prevention and dust control measures should be set out in a Construction Environmental Management Plan (CEMP) and implemented during site clearance and construction works. The CEMP will identify measures to ensure the potential for indirect impacts on retained habitats within and adjacent to the Scheme.
- 5.4 Measures to be included within the CEMP would ensure potential impacts on nearby non-statutory designated wildlife sites are avoided.

Habitats and Flora

Notable Habitats

Avoidance and Mitigation Required

- 5.5 Standard pollution prevention and dust control measures set out within the CEMP will be implemented during site clearance and construction works. The CEMP will identify measures to ensure the potential for indirect impacts on the neighbouring River Thames, and other HPI in the wider area, are reduced to a minimum.
- 5.6 It is recommended that an ecological Precautionary Working Method Statement (PWMS) for the protection of habitats and species be drafted to inform ecological input into the contractors CEMP. The PWMS will identify any further measures to ensure that impacts on priority habitats (HPI) are reduced to a reasonable minimum such that the qualifying features of such designations are not negatively affected by the proposed development.

- 5.7 It is recommended that on-site trees be retained as much as possible. Retained trees should be protected from accidental damage during construction works in line with BS5837:2012 Trees in relation to design, demolition, and construction.

Additional Measures or Enhancement Recommended

- 5.8 If trees cannot be retained as part of the proposals, this should be compensated for through replacement native species tree planting. Opportunities for habitat creation and enhancement will be provided within the BNG Design Stage Report (TEP Ref: 10179.003).

Other Habitats

Avoidance and Mitigation Required

- 5.9 It is understood all habitats are to be lost as a result of the development; details regarding compensation will be provided within the BNG Design Stage Report (TEP Ref: 10179.003).

Invasive Flora

Avoidance and Mitigation Required

- 5.10 It is recommended that all small-leaved cotoneaster shrubs are removed from site and disposed of following best practices for invasive species removal. This should be undertaken in consultation with invasive species removal specialist contractors.

Fauna

Badger

- 5.11 Badgers are protected under the Protection of Badgers Act 1992¹⁵ from killing, injury and certain acts of cruelty. Their setts are also protected from damage, obstruction, or destruction.

¹⁵ Protection of Badgers Act 1992 c. 51 <https://www.legislation.gov.uk/ukpga/1992/51/>

Avoidance and Mitigation Required

- 5.12 There is the potential for impacts on foraging and ranging badger during site clearance and construction works. Standard precautionary working measures will need to be implemented to ensure no harm or disturbance to badger as a result of the development. These measures would be set out within the PWMS.

Bats

- 5.13 All British bats are European protected species, afforded full protection under the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended). Bats are protected from killing or injury, and from disturbance at the place of rest. Bat roosts are also protected from obstruction, damage or destruction (whether or not a bat is in occupation at the time). Some species are also SPI.

Avoidance and Mitigation Required

- 5.14 A Natural England bat mitigation licence will need to be obtained to allow lawful demolition of B1. A bat mitigation strategy will be produced and submitted to the LPA on completion of the bat surveys, detailing how the loss of the bat roost will be mitigated for on site. Once planning consent is granted, the Natural England bat mitigation licence can be applied for.
- 5.15 Reasonable Avoidance Measures will be implemented alongside the licence that will ensure that during development works no bat will be harmed. Depending on the time frame of the building demolition, updated nocturnal surveys may be required to support a LICL application. Survey data must be collected from the most current survey season to support any LICL application.
- 5.16 Demolition will initially require an internal soft strip that involves asbestos removal and emptying the buildings. Works that are not being undertaken within the lofts, on roofs or associated infrastructure (guttering, soffits etc) or impact cavity walls will not adversely impact bats, and as such these works can occur without any bat supervision.
- 5.17 As a precautionary measure, a toolbox talk will be provided to the workforce ahead of any demolition, including Phase 1 soft demolitions. The toolbox talk will cover:
- Protection and policies surrounding bats;
 - Examples of bat roosts;
 - Procedure to follow if a bat is found; and

- Contact details of the bat licensed ecologist.

5.18 The second phase of the works will involve the demolition of the actual structures. The demolition of any bat roost and destructive searches of any potential roosting features can only occur during the daytime under suitable weather conditions when night time temperatures have reached at least 8°C. Flexibility will therefore be required for the scheduling of the demolition of potential roosting features.

5.19 A Sensitive Lighting Strategy should be implemented to minimise light spill from the Scheme onto the River Thames foraging and commuting corridor. The design of the strategy should be informed by the results of the surveys recommended above. The Sensitive Lighting Strategy will benefit bats and other nocturnal and crepuscular species. The Sensitive Lighting Strategy will address four key design principles:

- Use of unnecessary light will be avoided;
- Spatial spread of light – the horizontal and vertical spread of artificial light will be minimum and take into account both primary and reflected light sources. Directional lighting can be achieved through the use of LED bulbs and by the angle and orientation of beam. Use of a cowl, louvre or other light shield could also be implemented if required;
- Variable lighting regime – timers will be used to ensure that overall illumination is reduced during core night-time hours; and
- Intensity and colour of lighting – light intensity will be as low as possible whilst meeting the objectives of the intended function. Light sources selected will emit zero ultra-violet light wherever possible.

Additional Measures or Enhancement Recommended

5.20 To compensate for the loss of current roosting habitat on site and in line with Policy EN12 of the Local Plan, bat boxes should be installed onto the proposed building and onto any mature retained trees within the Scheme, details of which will be provided within the PWMS or mitigation licence application.

Birds

5.21 Native nesting birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981 (as amended) from damage and destruction, from the time of nest construction to fledging of the young. Many are also SPI.

Avoidance and Mitigation Required

- 5.22 Vegetation clearance should be completed outside of the nesting period (typically taken to be March to August inclusive). Where avoidance of the nesting period is not practicable, a nesting bird check must be carried out by an ecologist no more than 24 hours prior to the works, to confirm that no active nests are present. In the event that an active nest is identified, works within the surrounding area must halt until the chicks have fledged. The required radius of the exclusion area will depend on the species found nesting and the context of the nesting location.

Additional Measures or Enhancement Recommended

- 5.23 To compensate for the loss of suitable nesting habitat and in line with Policy EN12 of the Local Plan, bird boxes should be installed on site, details of which will be provided within the PWMS.

Otter and Water Vole

- 5.24 Otters and their habitats are protected under the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended). Otter is also a SPI.
- 5.25 Water voles are fully protected under the Wildlife and Countryside Act 1981 (as amended) and are a SPI. They are protected from capture, killing and injury and from disturbance in their place of shelter. Their places of shelter are also protected from damage, destruction and obstruction.

Avoidance and Mitigation Required

- 5.26 Standard pollution prevention and dust control measures set out within the CEMP will ensure pollution of the adjacent River Thames, and indirect impacts on commuting and foraging otter and water vole, will be reduced to a minimum.

Other Relevant Species

- 5.27 Hedgehog is a S41 species of principal importance.

Avoidance and Mitigation Required

Precautionary working measures set out within the PWMS should include measures in relation to hedgehog to avoid harm to this species.

6.0 Conclusions

- 6.1 Habitats on site are relatively common and widespread, with the scattered broad-leaved trees having the greatest ecological value. Recommendations for habitat retention and creation will be provided within the BNG Design Stage Report (TEP Ref: 10179.003).
- 6.2 Potential impacts upon protected or notable species have been identified and appropriate mitigation has been proposed, including production of a CEMP, sensitive timing of works, precautionary working measures, enhancement features, and a sensitive lighting strategy.
- 6.3 A bat mitigation strategy and Natural England bat mitigation licence will be needed to allow lawful demolition of B1.
- 6.4 Potential impacts upon the adjacent River Thames have been identified and appropriate mitigation has been proposed through the production of a CEMP.

Annex A: Ecological Desk Study (TEP Ref: 10179.001)



Waterfront Square, Reading

Berkshire

Ecological Desk Study

Prepared For: Packaged Living

Document Reference: 10179.001

January 2024

Version 1.0

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Annexes

Annex A: Key Ecological Legislation and National Policy

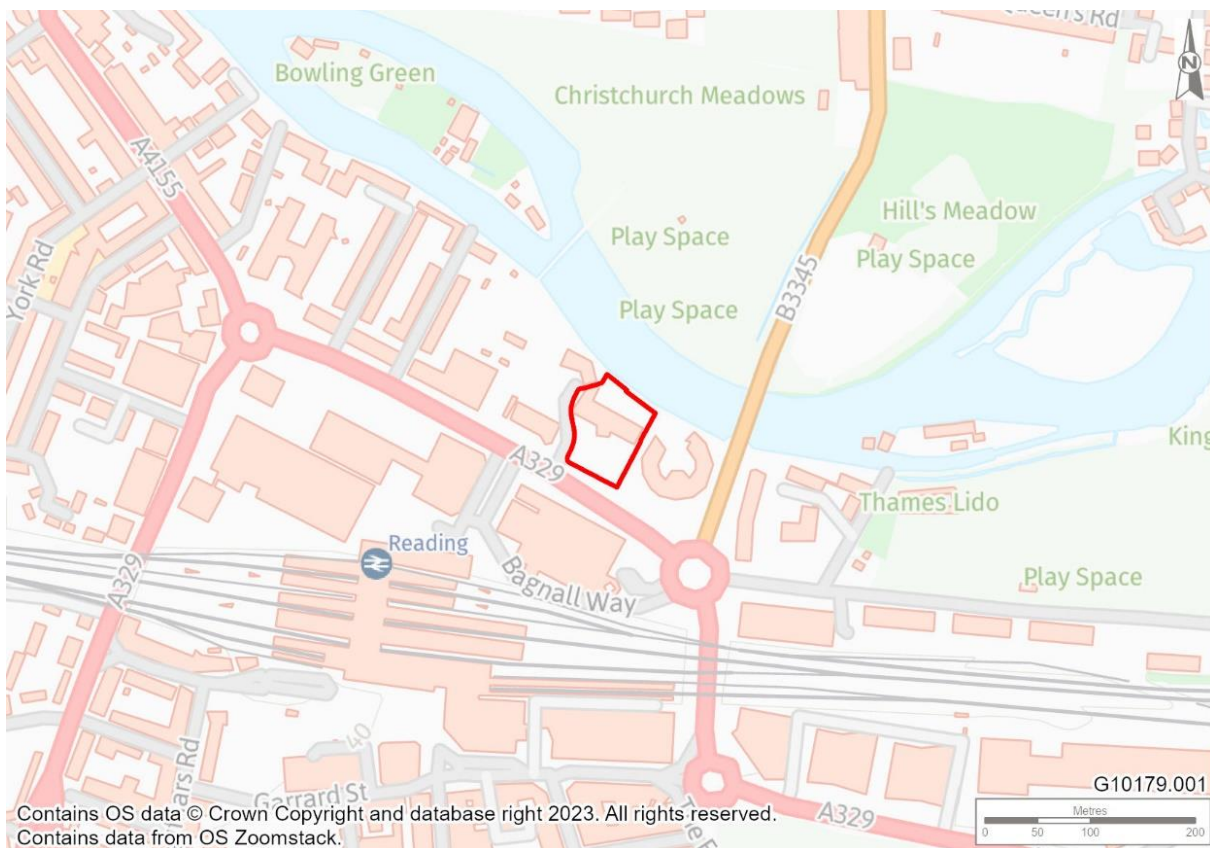
1.0 Introduction

- 1.1 The Environment Partnership (TEP) was commissioned by Packaged Living in October 2023 to complete an Ecological Impact Assessment (EclA) in support of a planning application for residential development. To inform the EclA, an ecological desk study was completed.

Location of Scheme

- 1.2 The Scheme is within the administrative area of Reading Borough Council. The Scheme is not allocated under any policies within the Reading Borough Local Plan (adopted 2019). The River Thames lies adjacent to the Scheme boundary which is allocated for biodiversity under Policies EN12 and EN13 of the Local Plan.
- 1.3 The Scheme (Figure 1) is located on Norman Place, Reading and backs onto the River Thames. The Scheme boundary measures approximately 0.54 ha and is centred on national grid reference SU 71667 74058.

Figure 1: Location of Scheme



Context

- 1.4 It is understood that a planning application was submitted in July 2024 for the demolition of the existing building and proposed development of circa 254 Build to Rent residential units, with associated car parking and landscaping.

Purpose

- 1.5 This Ecological Desk Study report details the method of data gathering and interpretation and presents the findings of the desk-based assessment.
- 1.6 This report is not sufficient in isolation to support a planning application. This report should be read in conjunction with the EcIA (TEP Ref: 10179.002).

2.0 Methods

Scope and Data Sources

- 2.1 The ecological Zone of Influence (ZOI) is an area defined by the ecological assessment within which valued ecological features may be subject to significant biophysical changes as a consequence of the proposed development under assessment.
- 2.2 For the purposes of this assessment, the preliminary ZOIs within which ecological features were searched for as part of this desk study were varied according to the geo-spatial and/or legal significance of the feature.
- 2.3 Table 1 summarises the scope and the preliminary ZOIs applied for this desk study. The preliminary ZOIs were applied by extending search radii of the respective distances from the Scheme boundary.

Table 1: Scope and preliminary ecological Zones of Influence (ZOI)

Feature	Scope	Key Source(s)	ZOI
Statutory wildlife sites:	Ramsar sites Proposed Ramsar sites Special Areas of Conservation (SAC) Possible SAC Special Protection Areas (SPA) Potential SPA	Natural England (public sector information) Reading Borough Local Plan (Adopted 2019) ¹	10km
	Sites of Special Scientific Interest (SSSI) National Parks National Nature Reserves (NNR)	Natural England (public sector information) Reading Borough Local Plan (Adopted 2019)	5km

¹ [Local_Plan_Adopted_November_2019.pdf \(reading.gov.uk\)](#) [Accessed 13/10/23]

Feature	Scope	Key Source(s)	ZOI
	Local Nature Reserves (LNR) Country Parks Strategic Nature Areas	Natural England (public sector information) Reading Borough Local Plan Interactive Map ²	2km
Non-statutory wildlife sites:	Berkshire Local Wildlife Sites (LWS) Berkshire Proposed Local Wildlife Sites (pLWS) Biodiversity Opportunity Areas Oxfordshire Local Wildlife Sites (LWS) Oxfordshire Proposed Local Wildlife (pLWS)	Thames Valley Environmental Records Centre (TVERC) Reading Borough Local Plan (Adopted 2019) Reading Borough Local Plan Interactive Map	2km
Notable habitats:	Ancient Woodland Habitats of principal importance Local Biodiversity Action Plan (LBAP) habitats Main rivers Habitat Network / Nature Recovery Network	Natural England (public sector information) Environment Agency (public sector information) Thames Valley Environmental Records Centre Reading Biodiversity Action Plan (LBAP) ³ Google Earth	500m

² iShare - Reading Planning Maps [Accessed 13/10/23]

³ Reading Biodiversity Action Plan [Accessed 16/10/23]

Feature	Scope	Key Source(s)	ZOI
Protected or notable species:	Pre-existing records for protected or notable species ⁴ , non-native invasive species	Thames Valley Environmental Records Centre	2km
	Protected species licences granted by Natural England Great crested newt survey pond records (2017 – 2019) held by Natural England	Natural England (public sector information)	2km
Policy and Related Guidance	Land allocations and relevant environment / biodiversity policy Local biodiversity priority habitats and species	Reading Borough Local Plan (Adopted 2019) Reading Borough Local Plan Interactive Map	As applicable to Scheme

2.4 An absence of records does not indicate the absence of protected species from the search area.

2.5 Geological sites are not designated for ecology reasons and are therefore excluded from further consideration in this ecological assessment.

⁴ Notable and protected species records may include those listed under any of the following:

- Protected species listed under Schedule 2 (animals) or Schedule 5 (plants) under the Conservation of Habitats and Species Regulations 2017 (EPS);
- Protected bird species under Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
- Protected animal species under Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
- Protected plant species under Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8);
- Invasive non-native plant species under Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
- Invasive Alien Species (Enforcement and Permitting) Order 2019 (IAS);
- Protection of Badgers Act 1992 (PBA);
- Species of principal importance (SPI) listed by requirements under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- Red and Amber listed Birds of Conservation Concern (BRd/BAm); and
- Local Biodiversity Action Plan Species (LBAP).

3.0 Legislation and Policy

3.1 The following summarises the legislation and planning policy which may have relevance to the scheme. Only legislation and policy of key relevance to biodiversity are listed. Further information is provided in Annex A.

- International Conventions:
 - ▶ The Convention on Wetlands of International Importance especially as Waterfowl Habitat ('Ramsar Convention'⁵ or 'Wetlands Convention');
 - ▶ The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention⁶);
 - ▶ The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention⁷ or CMS)
 - ▶ The Convention on Biological Diversity (Biodiversity Convention⁸ or CBD)
- Conservation of Habitats and Species Regulations 2017⁹ (the 2017 Regulations);
- Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019¹⁰ (the 2019 Regulations);
- Wildlife and Countryside Act (WCA) 1981¹¹;
- Environment Act 2021¹²;
- Countryside and Rights of Way Act (CROW) 2000¹³;
- Natural Environment and Rural Communities (NERC) Act 2006¹⁴;

⁵ Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, 2.2.1971 <https://www.ramsar.org/>

⁶ Convention on the Conservation of European Wildlife and Natural Habitats. Bern, 1979 <https://www.coe.int/>

⁷ Convention on the Conservation of Migratory Species of Wild Animals, Bonn, June 1979 <https://www.cms.int/>

⁸ Convention on Biological Diversity, Rio de Janeiro, June 1992 <https://www.cbd.int/>

⁹ Conservation of Habitats and Species Regulations 2017 (SI 2017/1012) <https://www.legislation.gov.uk/uksi/2017/1012/>

¹⁰ Conservation of Habitats and Species Regulations 2019 (SI 2019/579) <https://www.legislation.gov.uk/uksi/2019/579/>

¹¹ Wildlife and Countryside Act 1981 c. 69 <https://www.legislation.gov.uk/ukpga/1981/69/>

¹² Environment Act 2021 c.30 <https://www.legislation.gov.uk/ukpga/2021/30/>

¹³ Countryside and Rights of Way Act 2000 c. 37 <https://www.legislation.gov.uk/ukpga/2000/37/>

¹⁴ Natural Environment and Rural Communities Act 2006 c. 16 <https://www.legislation.gov.uk/ukpga/2006/16/>

- Hedgerow Regulations 1997¹⁵;
- Protection of Badgers Act (PBA)1992¹⁶;
- Wild Mammals (Protection) Act (WMPA) 1996¹⁷;
- National Planning Policy Framework (NPPF) 2023¹⁸;
- Government Circular 06/2005¹⁹.

Local Planning Policy

- 3.2 The current Local Plan is the Reading Borough Council Local Plan, adopted November 2019. The Local Plan will guide development in Reading up to 2036.
- 3.3 The following policies are of relevance to biodiversity:
- Policy EN11 – Waterspaces;
 - Policy EN12 – Biodiversity and The Green Network;
 - Policy EN13 – Major Landscape Features and Areas of Outstanding Natural Beauty; and
 - Policy EN14 – Trees, Hedges and Woodland;
- 3.4 The Scheme is not allocated for biodiversity purposes. However, the Scheme lies adjacent to the River Thames which has been identified within Policies EN12 and EN13 of the Local Plan.
- 3.5 The River Thames has been identified as a green link within the Green Network of Policy EN12, vital for wildlife movement. Policy EN12 states that the “*key elements of the Green Network shall be maintained, protected, consolidated, extended and enhanced.*” Furthermore, “*on all sites, development should not result in a net loss of biodiversity and geodiversity and should provide a net gain for biodiversity wherever possible.*”

¹⁵ The Hedgerow Regulations 1997 (SI 1997/1167) <https://www.legislation.gov.uk/uksi/1997/1160/>

¹⁶ Protection of Badgers Act 1992 c. 51 <https://www.legislation.gov.uk/ukpga/1992/51/>

¹⁷ Wild Mammals (Protection) Act 1996 c.3 <https://www.legislation.gov.uk/ukpga/1996/3>

¹⁸ National Planning Policy Framework (2023). Department for Levelling Up, Housing and Communities. <https://www.gov.uk/government/publications/national-planning-policy-framework-2>

¹⁹ Office of the Deputy Prime Minister (2005) ‘Government Circular: Geological and Biological Conservation – Statutory obligations and their implications within the planning system’ ODPM circular 06/2005, DEFRA circular 01/2005 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf

- 3.6 The River Thames and Thames Valley is listed as a Major Landscape Feature under Policy EN13. *“Planning permission will not be granted for any development that would detract from the character or appearance of a Major Landscape Feature.”*
- 3.7 Policy EN11 is also of relevance regarding the River Thames, as *“there will be no adverse impact on the functions and setting of any watercourse and its associated corridor.”*

Reading Tree Strategy

- 3.8 The Tree Strategy (172 b)²⁰ sets out the approach to the planting, management, and maintenance of trees in Reading and provides further information to support Policy EN14 of the Local Plan.

²⁰ *Reading Borough Council Tree Strategy, March 2021* [Accessed 15/12/23]

4.0 Biodiversity Initiatives and Strategies

Local Biodiversity Action Plans (BAP)

- 4.1 The Reading BAP³ (February 2021) covers the area of Reading Borough and aims to ensure that by 2030 Reading will be richer in wildlife, better connected to the wider landscape and that biodiversity loss will be reversed.
- 4.2 The previous Reading BAP (2006) was subdivided into a list of eight Habitat Action Plans and 11 Species Action Plans. The current BAP is organised differently, focusing on themes rather than habitats and species.

5.0 Wildlife Sites

Statutory Sites

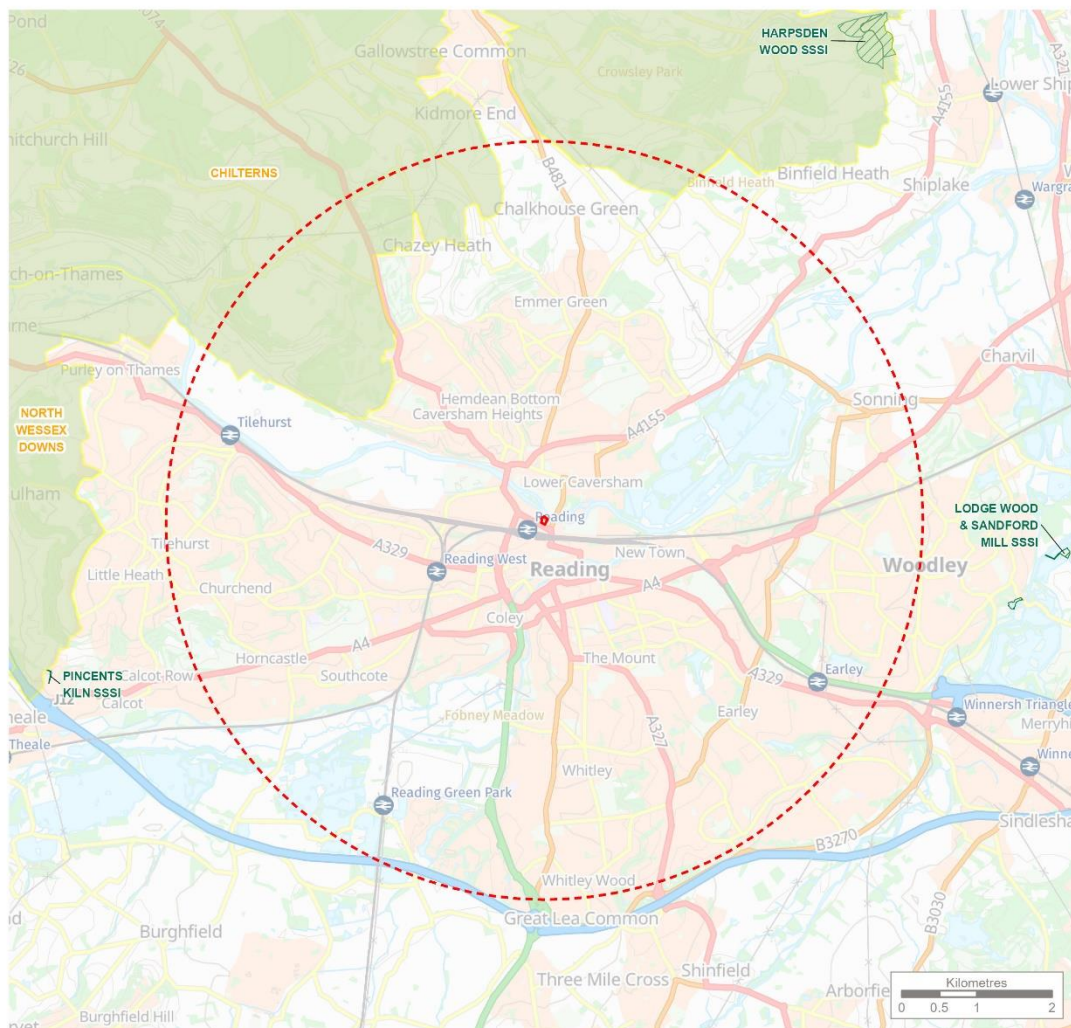
- 5.1 There are no internationally designated wildlife sites within 10km of the Scheme boundary. There is one nationally designated wildlife site within 5km of the Scheme boundary (Figure 2). There are no locally designated wildlife sites within 2km of the Scheme boundary. Statutory wildlife sites are summarised in Table 2 below. Distances are calculated between the closest points. Links to data forms and citations are also provided, where applicable.

Table 2: Statutory wildlife sites

Site Name	Designation & Citation Link	Distance and Direction from Scheme	Reason(s) for Designation
Statutory wildlife sites of national significance within 5km of Scheme (Drawing G10179.003)			
The Chilterns	AONB <i>The Chilterns Areas of Outstanding Natural Beauty</i> (landscapesforlife.org.uk)	2.6km north-west	The Chilterns contain an important diversity of habitats ranging from chalk grassland to the country's most extensive areas of beech <i>Betula</i> woodland, with some areas protected under EU legislation as Special Areas of Conservation (SAC).

- 5.2 The Scheme does not overlap with any SSSI Impact Risk Zones (IRZ) – these are zones determined by Natural England that identify likely impacts upon SSSIs, SACs, SPAs or Ramsar sites that may result from planned development (**Error! Reference source not found.**).

Figure 2: Nationally designated sites within 5km of the Scheme



- Key**
- Site boundary
 - Site boundary - 5km buffer
 - Areas of Outstanding Natural Beauty
 - Sites of Special Scientific Interest (SSSI)

Sites searched for were as follows:

- Sites of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Area of Outstanding Natural Beauty (AONB)

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Project
Waterfront Square, Reading

Title
Nationally Designated Sites Within a 5km Buffer

Drawing Number
G10179.003

Scale
1:70,000 @ A4

Date
23/07/2024

Drawn
OH

Checked
SP

Approved
MB

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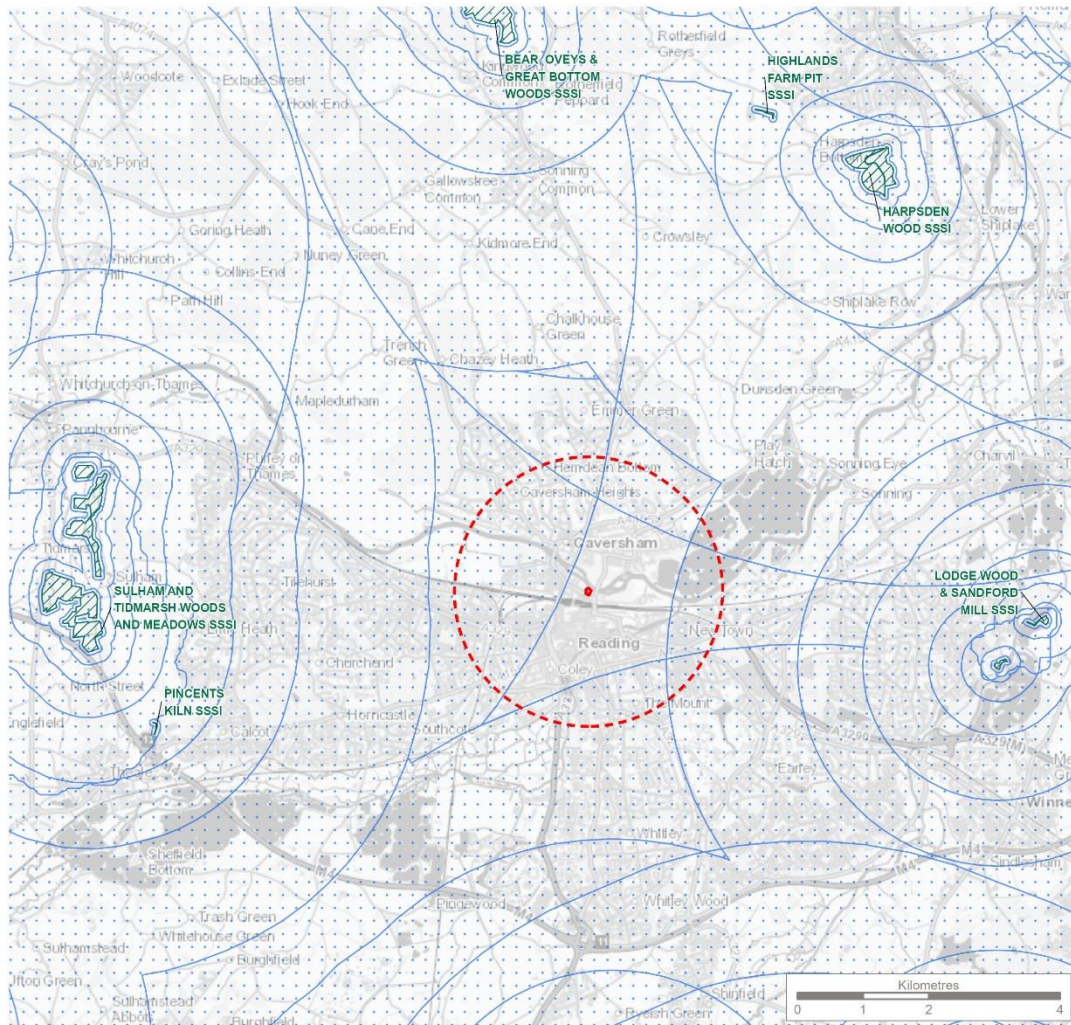
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Figure 3: SSSI IRZ in proximity to the Scheme



Key

- Site boundary
- Site boundary - 2km buffer
- Sites of Special Scientific Interest (SSSI)
- Sites of Special Scientific Interest - Impact Risk Zone

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Project
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Title
Sites of Special Scientific Interest - Impact Risk Zone

Drawing Number
G10179.006

Scale 1:80,000 @ A4	Date 23/07/2024
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Non-Statutory Wildlife Sites

- 5.3 Table 3 summarises the non-statutory locally designated wildlife sites identified within 2km of the Scheme boundary. Distances are calculated between the closest points.
- 5.4 Data relating to local wildlife sites were provided by Thames Valley Environmental Records Centre (TVERC). These sites are illustrated in Figure 4 below.

Table 3: Non-statutory local wildlife sites

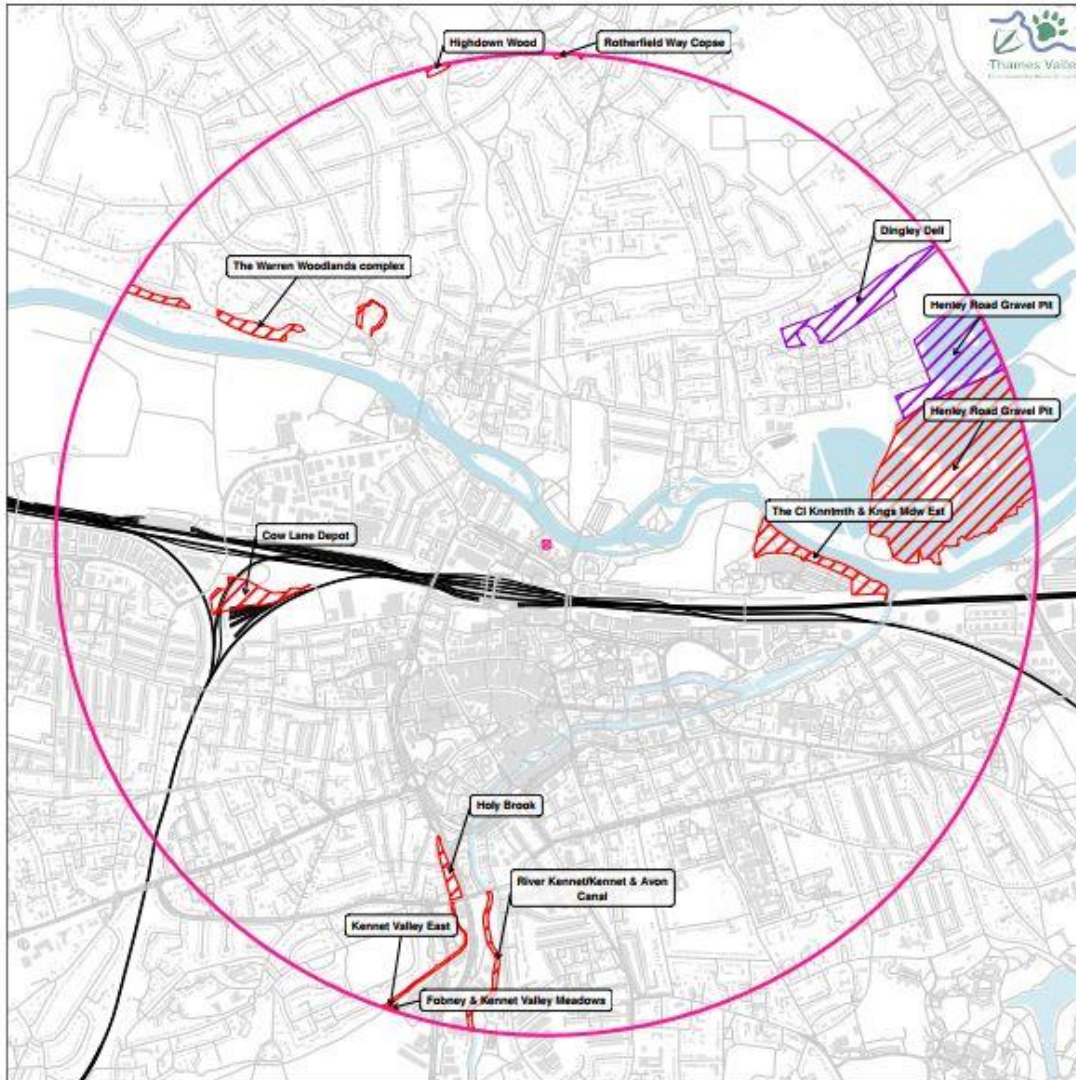
Site Name	Status	Distance and Direction from Scheme	Key Interest Feature(s)
The Coal, Kennetmouth and Kings Meadow East	Berkshire LWS	850m east	This site is a combination of two sites previously notified separately (The Coal and Kennetmouth West) and an area of land in the east of Kings Meadow. The Coal comprises a central and riverside woodland area; Kennetmouth is a short length of towpath at the confluence of the River Kennet and River Thames; and Kings Meadow East is a recreational area. Kennetmouth is important for the presence of Loddon lily <i>Leucojum aestivum</i> as well as several slender groundhoppers <i>Tetrix subulata</i> , colonies of which are isolated along the Thames Valley.
Cow Lane Depot	Berkshire LWS	960m south-west	The site forms a mosaic of habitats ranging from willow <i>Salix sp.</i> scrub with mature trees, to open standing water with swamp to ruderal and tall herb grassland. The site has a varied topography and provides a wildlife corridor in an urban landscape.
The Warren Woodlands Complex	Berkshire LWS	1km north-west	The Complex consists of six sites including Warren Woods Chalkpit, Chalkpit Wood, Chazney Wood, Grass Hill and Warren Court Wood, Woodrow Court Woods, and Long Drain. Badger <i>Meles meles</i> setts have been recorded throughout the various sites.

Site Name	Status	Distance and Direction from Scheme	Key Interest Feature(s)
			Long Drain wet woodland supports a population of the nationally scarce Loddon lily.
Holy Brook	Berkshire LWS	1.1km south	The Holy Brook is a stream that carries water from and emptying back into the River Kennet, a chalk river. The stream supports a number of notable invertebrates and water vole <i>Arvicola amphibius</i> has been recorded in the central and western sections.
Dingley Dell	Berkshire pLWS	1.25km north-east	A large site incorporating woodland and semi-improved grassland, with a small area of scrub with mature willow pollards.
Henley Road Gravel Pit	Oxfordshire LWS and pLWS	1.3km east	This site is a large pit next to the River Thames which supports a range of wildfowl that winter in the UK including gadwall <i>Mareca strepera</i> . Some nationally scarce invertebrate species have also been recorded.
Kennet Valley East (incl. River Kennet/Kennet & Avon Canal)	LWS	1.3km south	This site includes chalk river, reedbeds, fen, wet woodland, lowland meadow, wet grassland and standing water.
Highdown Wood	Berkshire LWS	2km north	This is a small broad-leaved woodland, dominated by mature beech <i>Fagus sylvatica</i> indicating plantation woodland. It provides a good mature habitat for birds.
Fobney & Kennet Valley Meadows	Berkshire LWS	2km south	A large area of permanent pasture with some wet grassland and patches of swamp vegetation supporting populations of dragonflies and damselflies. The meadows flood regularly in winter providing suitable habitat for overwintering wildfowl. There is backwater of the River Kennet which is rich in aquatic species including the rare river water-dropwort <i>Oenanthe crocata</i> , fennel pondweed <i>Stuckenia</i>

Site Name	Status	Distance and Direction from Scheme	Key Interest Feature(s)
			<i>pectinata</i> , flowering rush <i>Butomus umbellatus</i> and spiked water milfoil <i>Myriophyllum spicatum</i> .
Rotherfield Way Copse	Berkshire LWS	2km north	This small broad-leaved woodland is entirely surrounded by urban development, apart from a wide mown grass verge of little wildlife value. Bluebell <i>Hyacinthoides non-scripta</i> (WCA8) has been recorded here.

Figure 4: Non-statutory wildlife sites within 2km of Scheme (map provided by TVERC)

Norman Place, Reading Designated Sites Map



- | | | |
|--|---------------------------------|--|
| Berkshire Local Wildlife Site | Biodiversity Opportunity Area | Oxfordshire Proposed Local Wildlife Site Extension |
| Berkshire Proposed Local Wildlife Site | Oxfordshire Local Wildlife Site | |

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6.0 Notable Habitats

Ancient Woodland

- 6.1 No ancient woodland is identified on Natural England's ancient woodland inventory on or adjacent to the Scheme boundary (Figure 5).

Habitats of Principal Importance (HPI)

- 6.2 The River Thames is located adjacent to the northern Scheme Boundary and is identified as a statutory main river and HPI. No other HPI are located on or adjacent to the Scheme boundary (Figure 5).
- 6.3 The nearest priority habitat is an area of deciduous woodland located approximately 235m east of the Scheme (Figure 5).

Figure 5: Notable habitats on or adjacent to the Scheme



- Key**
- Site boundary
 - Site boundary - 500m buffer
 - Statutory main rivers (England)
 - Deciduous woodland
 - Good quality semi improved grassland
 - No main habitat but additional habitats present

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Project
Waterfront Square, Reading

Title
Notable Habitats Within and Adjacent to the Site

Drawing Number
G10179.005

Scale
1:8,000 @ A4

Date
23/07/2024

Drawn OH	Checked SP	Approved MB
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7.0 Protected and Notable Species

Protected Species Licences

- 7.1 A review of Natural England's open datasets for granted protected species licences returned 11 licences for bats within 2km of the Scheme, as detailed in Table 4 below.
- 7.2 A review of Natural England's open datasets did not return any class licence returns for great crested newt (GCN) *Triturus cristatus* within 2km of the Scheme. No pond survey data for GCN between 2017 and 2019 was returned within 2km of the Scheme.

Table 4: Granted Protected Species Licences within 2km of the Scheme

Licence Reference	Dates	Species	Purpose of Licence	Distance from Scheme
2017-28045-EPS-MIT	08/03/2017 to 08/03/2022	Daubenton's bat	Unknown	185m south-east
EPSM2013-6155	19/09/2013 to 31/08/2015	Common pipistrelle	Destruction of a resting place	360m south-east
2019-44194-EPS-MIT	01/02/2020 to 31/03/2020	Common pipistrelle, soprano pipistrelle	Destruction of a resting place	685m south-east
2014-1343-EPS-BDX	01/10/2014 to 30/10/2014	Soprano pipistrelle	Unknown	830m north
EPSM2011-3175	10/07/2011 to 31/08/2012	Common pipistrelle	Unknown	1km north-east
2016-22301-EPS-MIT	21/04/2016 to 20/04/2021	Common pipistrelle	Damage and destruction to a resting place	1.2km south-east
2016-27061-EPS-MIT	03/01/2017 to 03/01/2017	Brown long-eared bat, common pipistrelle	Destruction of a resting place	1.3km north-west

Licence Reference	Dates	Species	Purpose of Licence	Distance from Scheme
2017-32379-EPS-MIT	04/12/2017 to 29/11/2022	Common pipistrelle	Damage and destruction of a resting place	1.5km south-west
2018-33476-EPS-MIT	07/03/2018 to 21/02/2023	Serotine bat	Destruction of a resting place	1.7km north-east
2020-44895-EPS-MIT	25/02/2020 to 25/02/2025	Brown long-eared bat, common pipistrelle, Daubenton's bat, soprano pipistrelle	Destruction of a resting place	1.7km north-east
2014-3941-EPS-MIT	21/10/2014 to 30/11/2019	Common pipistrelle, soprano pipistrelle	Damage and destruction of a resting place	2km south-east

Pre-existing Species Records

7.3 Numerous species records were returned from TVERC for within 2km of the Scheme. These are summarised in Table 5 below.

Table 5: Summary of pre-existing species records returned by Thames Valley Environmental Records Centre (TVERC)

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Amphibians			
Common toad	SPI	12	1.4km north-east
Great crested newt	EPS, WCA5, SPI	1	430m north-east

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Birds			
Avocet	WCA1, BAm	1	Within 2km
Barn owl	WCA1	1	Within 2km
Barnacle goose	BAm	1	Within 2km
Black redstart	WCA1, BAm	10	Within 2km
Black-headed gull	BAm	94	Within 2km
Brambling	WCA1	16	Within 2km
Bullfinch	SPI, BAm	19	Within 2km
Common gull	BAm	52	Within 2km
Common tern	BAm	23	Within 2km
Crossbill	WCA1	2	Within 2km
Dunnock	SPI, BAm	26	Within 2km
Fieldfare	WCA1, BRd	29	Within 2km
Firecrest	WCA1	79	Within 2km
Goshawk	WCA1	2	Within 2km
Great black-backed gull	BAm	3	Within 2km

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Greenfinch	BRd	21	Within 2km
Grey wagtail	BAm	82	Within 2km
Greylag goose	BAm	57	Within 2km
Hawfinch	SPI, BRd	1	Within 2km
Herring gull	SPI, BRd	51	Within 2km
Honey-buzzard	WCA1, BAm	1	Within 2km
House martin	BRd	25	Within 2km
House sparrow	SPI, BRd	27	Within 2km
Kestrel	BAm	35	Within 2km
Kingfisher	WCA1	52	Within 2km
Lapwing	SPI, BRd	8	Within 2km
Lesser black-backed gull	BAm	56	Within 2km
Lesser redpoll	SPI	12	Within 2km
Lesser spotted woodpecker	SPI, BRd	3	Within 2km
Mallard	BAm	100	Within 2km

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Marsh tit	SPI, BRd	1	Within 2km
Meadow pipit	BAm	4	Within 2km
Merlin	WCA1, BRd	1	Within 2km
Mistle thrush	BRd	97	Within 2km
Montagu's harrier	WCA1, BRd	1	Within 2km
Moorhen	BAm	64	Within 2km
Nightingale	BRd	3	Within 2km
Osprey	WCA1, BAm	1	Within 2km
Peregrine	WCA1	48	Within 2km
Pochard	BRd	27	Within 2km
Red kite	WCA1	113	Within 2km
Redstart	BAm	22	Within 2km
Redwing	WCA1, BAm	124	Within 2km
Reed bunting	SPI, BAm	6	Within 2km
Ring ouzel	SPI, BRd	1	Within 2km
Rook	BAm	4	Within 2km

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Sedge warbler	BAm	4	Within 2km
Shag	BRd	2	Within 2km
Shelduck	BAm	2	Within 2km
Shoveler	BAm	123	Within 2km
Skylark	SPI, BRd	2	Within 2km
Snipe	BAm	1	Within 2km
Song thrush	SPI, BAm	72	Within 2km
Sparrowhawk	BAm	34	Within 2km
Spotted flycatcher	SPI, BRd	8	Within 2km
Starling	SPI, BRd	22	Within 2km
Stock dove	BAm	13	Within 2km
Swift	BRd	231	Within 2km
Tawny owl	BAm	36	Within 2km
Teal	BAm	7	Within 2km
Whitethroat	BAm	22	Within 2km
Wigeon	BAm	5	Within 2km

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Willow warbler	BAm	17	Within 2km
Woodcock	BRd	1	Within 2km
Woodpigeon	BAm	59	Within 2km
Wren	BAm	46	Within 2km
Yellow wagtail	SPI, BRd	1	Within 2km
Yellow-browed warbler	BAm	4	Within 2km
Yellow-legged gull	BAm	1	Within 2km
Yellowhammer	SPI, BRd	14	Within 2km
Fish			
European eel	SPI	4	1km south-east
Flowering plants			
Bluebell	WCA8	9	Within 2km
Canadian waterweed	WCA9	1	1.25km north-east
English sticky eyebright	SPI	2	Within 2km
Himalayan balsam	WCA9	11	435m north-east
Japanese knotweed	WCA9	13	435m north-east

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
New Zealand pigmyweed	WCA9	2	1.3km east
Nuttall's waterweed	WCA9	2	675m south-west
Invertebrates – beetles			
Stag beetle	WCA5, SPI	472	Within 2km
Invertebrates – butterflies			
Grizzled skipper	SPI	1	Within 2km
Small heath	SPI	4	Within 2km
Wall	SPI	1	Within 2km
White-letter hairstreak	SPI	1	Within 2km
Invertebrates – crustaceans			
A crustacean (<i>Chelicorophium curvispinum</i>)	WCA9	15	430m east
Chinese mitten crab	WCA9	1	1.2km south-west
Demon shrimp	WCA9	9	1.25km east
Signal crayfish	WCA9	2	1.25km east
Invertebrates – molluscs			

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Thames ramshorn	SPI	2	Within 2km
Zebra mussel	WCA9	4	1.25km east
Invertebrates – moths			
August thorn	SPI	3	Within 2km
Beaded chestnut	SPI	35	Within 2km
Blood-vein	SPI	12	Within 2km
Brindled beauty	SPI	56	Within 2km
Brown-spot pinion	SPI	37	Within 2km
Buff ermine	SPI	36	Within 2km
Centre-barred sallow	SPI	4	Within 2km
Cinnabar	SPI	39	Within 2km
Dark-barred twin-spot carpet	SPI	13	Within 2km
Deep-brown dart	SPI	5	Within 2km
Dot moth	SPI	56	Within 2km
Double dart	SPI	1	Within 2km
Dusky brocade	SPI	4	Within 2km

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Dusky thorn	SPI	10	Within 2km
Ear moth	SPI	1	Within 2km
Figure of eight	SPI	1	Within 2km
Garden dart	SPI	19	Within 2km
Garden tiger	SPI	6	Within 2km
Ghost most	SPI	1	Within 2km
Green-brindled crescent	SPI	20	Within 2km
Grey dagger	SPI	54	Within 2km
Heath rustic	SPI	1	Within 2km
Knot grass	SPI	6	Within 2km
Lackey	SPI	4	Within 2km
Large nutmeg	SPI	13	Within 2km
Latticed heath	SPI	1	Within 2km
Mottled rustic	SPI	85	Within 2km
Mouse moth	SPI	40	Within 2km
Mullein wave	SPI	1	Within 2km

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Oak hook-tip	SPI	2	Within 2km
Olive crescent	SPI	1	Within 2km
Powdered quaker	SPI	15	Within 2km
Rosy minor	SPI	3	Within 2km
Rosy rustic	SPI	3	Within 2km
Rustic	SPI	55	Within 2km
Sallow	SPI	8	Within 2km
September thorn	SPI	9	Within 2km
Shaded broad-bar	SPI	6	Within 2km
Shoulder-striped wainscot	SPI	7	Within 2km
Small emerald	SPI	6	Within 2km
Small phoenix	SPI	3	Within 2km
Small square-spot	SPI	44	Within 2km
Spinach	SPI	14	Within 2km
Sprawler	SPI	7	Within 2km
Streak	SPI	3	Within 2km

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
V-moth	SPI	24	Within 2km
White ermine	SPI	21	Within 2km
Terrestrial mammals – bats			
Bat species	EPS, WCA5, SPI	18	100m west
Brown long-eared bat	EPS, WCA5, SPI	33	1.2km south-east
Common pipistrelle	EPS, WCA5	247	100m west
Daubenton's bat	EPS, WCA5	122	Adjacent to Scheme
Lesser noctule	EPS, WCA5	9	1.3km east
Long-eared bat species	EPS, WCA5, SPI	14	1.3km east
Myotis bat species	EPS, WCA5, SPI	50	100m west
Nathusius's pipistrelle	EPS, WCA5	41	Adjacent to Scheme
Natterer's bat	EPS, WCA5	2	1.6km north-east
Noctule bat	EPS, WCA5, SPI	131	100m west
Pipistrelle bat species	EPS, WCA5, SPI	59	100m west
Serotine	EPS, WCA5	13	1.3km east
Soprano pipistrelle	EPS, WCA5, SPI	246	100m west

Name of Species	Relevant Legislation / Status (as assigned by TVERC)	Number of records	Nearest record relevance
Western barbastelle	EPS, WCA5, SPI	2	1.3km east
Whiskered/Brandt's bat	EPS, WCA5	1	1.7km north-east
Terrestrial mammals – excl. bats			
American mink	WCA9	2	Within 2km
Eurasian badger	PBA	54	290m east
Eurasian otter	EPS, WCA5, SPI	17	175m north-east
European water vole	WCA5, SPI	1	1.65km east
Hazel dormouse	EPS, WCA5, SPI	3	2km west
West European hedgehog	SPI	63	310m north-west
Reptiles			
Adder	WCA5, SPI	1	1.7km north-east
Common lizard	WCA5, SPI	3	1.2km south-west
Grass snake	WCA5, SPI	16	1km south-west
Slow-worm	WCA5, SPI	58	880m north-west

Annex A: Key Ecological Legislation and National Policy

Relevant Legislation

International Conventions

A.1 The UK is a Contracting Party to numerous environmental conventions, the commonest form of international agreements to encourage a coordinated response to managing the environment. Key environmental conventions ratified in the UK include:

- The Convention on Wetlands of International Importance especially as Waterfowl Habitat ('Ramsar Convention'²¹ or 'Wetlands Convention') - provides the only international mechanism for protecting sites of global importance;
- The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention²²) - imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species;
- The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention²³ or CMS) - provides strict protection for endangered migratory species. The UK has currently ratified four legally binding Agreements under the convention relating to bats (EUROBATS), African-Eurasian migratory birds (AEWA), small cetaceans in the Baltic, Irish and North Seas (ASCOBANS) and albatrosses and petrels (ACAP) in addition to five Memorandum of Understanding (MoU) and is non-party range state to a further Agreement and a further MoU;
- The Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO World Heritage Convention) - seeks to protect both cultural and natural heritage;
- The Convention on Biological Diversity (Biodiversity Convention²⁴ or CBD) - provides a legal framework for biodiversity conservation. Within the UK, delivery of the CBD and the

²¹ Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, 2.2.1971 <https://www.ramsar.org/>

²² Convention on the Conservation of European Wildlife and Natural Habitats. Bern, 1979 <https://www.coe.int/>

²³ Convention on the Conservation of Migratory Species of Wild Animals, Bonn, June 1979 <https://www.cms.int/>

²⁴ Convention on Biological Diversity, Rio de Janeiro, June 1992 <https://www.cbd.int/>

Strategic Plan for Biodiversity 2011-2020²⁵ is guided by the UK Post-2010 Biodiversity Framework²⁶.

- A.2 The legal obligations of the multiple Conventions to which the UK is a Contracting Party are enacted through a suite of national environmental legislation. The most relevant are described in the following paragraphs.

Conservation of Habitats and Species Regulations

- A.3 The Conservation of Habitats and Species Regulations 2017²⁷ (2017 Regulations) transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives) into domestic law.
- A.4 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019²⁸ (2019 Regulations) amends the 2017 Regulations to make them operable following the withdrawal of the United Kingdom from the European Union (EU). Most of the changes involve transferral of functions from European Commission to the appropriate authorities in England and Wales, also extending to Scotland and Northern Ireland and applies to Scotland and Northern Ireland (including the adjacent territorial sea to a limited degree), as regards reserved and excepted matters respectively. It also amends Section 27 of the Wildlife and Countryside Act 1981 to maintain existing protections and enforcement for species of wild birds.
- A.5 All other processes or terms in the 2017 Regulations remain unchanged and existing guidance and obligations (of a competent authority) remain relevant.

National Site Network

- A.6 Under the 2019 Regulations, Special Areas of Conservation (SAC) and Special Protection Areas (SPA) in the UK no longer form part of the EU's 'Natura 2000' ecological network, but instead (along with new SACs and SPAs designated under the 2019 Regulations)

²⁵ In October 2010, at the 10th Conference of the Parties to the CBD in Nagoya, Japan, the Parties adopted a new 'Strategic Plan for Biodiversity 2011–2020' along with its 20 'Aichi targets'. <https://www.cbd.int/sp/>

²⁶ The framework is overseen by the Environment Departments of the four UK governments working through the Four Countries' Biodiversity Group. It demonstrates how the UK, through each of the four countries, contributes to achieving the 'Aichi targets', and identifies the activities required to complement the individual country biodiversity strategies <https://jncc.gov.uk/our-work/uk-post-2010-biodiversity-framework/>

²⁷ Conservation of Habitats and Species Regulations 2017 (SI 2017/1012) <https://www.legislation.gov.uk/uksi/2017/1012/>

²⁸ Conservation of Habitats and Species Regulations 2019 (SI 2019/579) <https://www.legislation.gov.uk/uksi/2019/579/>

form the new National Site Network (NSN). Ramsar sites⁵ do not form part of the NSN but remain protected in the same way as SACs and SPAs.

- A.7 Proposals which may significantly affect a site belonging to the NSN and which are not connected with or necessary to the management of that site require (by Regulations 63 and 64 of the 2017 Regulations, as amended by Regulations 24 and 25 of the 2019 Regulations, respectively) competent authorities to undertake an Appropriate Assessment of the implications of the plan or project in view of that site's conservation objectives. This process is commonly referred to as a 'Habitats Regulations Assessment' (HRA). The assessment must consider the potential effects both of the plan/project itself and in combination with other plans or projects. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of over-riding public interest (IROPI) and if the necessary compensatory measures can be secured.

Protected Species

- A.8 Certain animals and their breeding sites or resting places are protected under Regulation 43 of the 2017 Regulations, which makes it illegal to:
- Deliberately capture, injure or kill any such animal or to deliberately take or destroy the eggs of such an animal;
 - Deliberately disturb such an animal; and
 - Damage or destroy a breeding site or resting place of such an animal.
- A.9 Disturbance is defined in the 2017 Regulations as an activity which is likely to impair a species' ability to survive, to breed or reproduce, to rear or nurture young or, in the case of animals hibernating or migratory species, to hibernate, migrate or which may affect significantly the local distribution or abundance; of the species.
- A.10 A bat's resting place is known as a roost site. Because bats tend to be faithful to roost sites but their biology is such that different roost site characteristics are preferred at different times of the year by different species for different functions, a bat roost is considered to be afforded protection even when it is not occupied.
- A.11 Certain plant species are protected under Regulation 47 of the 2017 Regulations against deliberate picking, collecting, cutting, uprooting or destruction. It is also an offence to be in possession or control and to transport any live or dead plant or part of a plant of such a species which has been taken in the wild.

- A.12 The 2017 Regulations (Regulation 55) enables a relevant licensing body to grant a licence for certain activities that may affect animal or plant species protected by the above provisions. The purpose must conform to one of those listed under Regulation 55(2). For most development related activities, the purpose normally relates to Regulation 55(2)(e) ‘preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequence of primary importance for the environment’ – commonly known as the IROPI test. Regulation 55(9) introduces two further tests that the licensing body must consider:
- There is no satisfactory alternative; and
 - The favourable conservation status of the species concerned will be maintained and/or enhanced.
- A.13 Under Regulation 9(1) of the 2017 Regulations (as amended), competent authorities “must exercise their functions which are relevant to nature conservation... so as to secure compliance with the requirements of the Directives”. Regulation 9(3) requires a competent authority, in exercising any of its function, to “have regard to the requirements of the Directives so far as they be affected by the exercise of those functions.” Local planning authorities must therefore consider the above three ‘tests’ when determining if planning permission should be granted for developments likely to cause an offence under the Regulations.

Wildlife and Countryside Act 1981

- A.14 The Wildlife and Countryside Act 1981 (as amended)²⁹ (WCA) is a major legal instrument for wildlife protection in the UK. In respect of habitats and flora, the WCA protects important habitats and/or species as Sites of Special Scientific Interest (SSSI). The designation of UK Ramsar sites⁵ has usually been underpinned through prior notification of these areas as SSSI and accordingly they receive statutory protection under the WCA.
- A.15 The obligations of the Bern Convention⁶ (the protection of wild plant and animal species and their natural habitats) are transposed into law for England and Wales³⁰ by the WCA. The legal requirement for the protection of migratory species listed by the Bonn Convention⁷ is also provided by the WCA.

²⁹ Wildlife and Countryside Act 1981 c. 69 <https://www.legislation.gov.uk/ukpga/1981/69/>

³⁰ In Scotland by the Nature Conservation (Scotland) Act 2004 (as amended) and in Northern Ireland by Wildlife (Northern Ireland) Order 1985 and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985.

- A.16 All wild birds (as defined by the WCA and with exception to species listed in Schedule 2) are protected under the WCA, which makes it illegal to:
- Intentionally kill, injure or take any wild bird;
 - Take, damage or destroy the nest (whilst being built or in use) of any wild bird; or
 - Take or destroy the eggs of any wild bird.
- A.17 Special penalties are available for offences related to birds listed in Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young. The Secretary of State may also designate Areas of Special Protection (subject to exceptions) to provide further protection to birds. The WCA also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity.
- A.18 Certain animal species (listed under Schedule 5) of the WCA receive protection which makes it illegal (with certain exceptions) to:
- Intentionally kill, injure or take any such animal;
 - Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal;
 - Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
- A.19 The Environment Act (EA) 2021 amends the licensing regime under Section 16 of the WCA 1981 to enable licences to be granted (in England only) for reasons of overriding public interest. This new purpose will enable those involved in development activities to apply for a derogation under the WCA for species domestically protected under Schedule 5 of the WCA 1981.
- A.20 The amendments introduced by the EA 2021 at Section 16(3) requires that licensed may only be granted (in England) where:
- there is no other satisfactory solution, and
 - the grant of the licence is not detrimental to the survival of any population of the species of animal or plant to which the licence relates.
- A.21 Plant species listed under Schedule 8 of the WCA 1981 are protected from unauthorised intentional picking, uprooting and destruction.

- A.22 It is an offence to plant or otherwise cause to grow in the wild any plant that is included in Schedule 9.

Countryside and Rights of Way Act 2000

- A.23 Part III of the Countryside and Rights of Way Act 2000³¹ (CROW) deals specifically with wildlife protection and nature conservation. It requires that Government Departments have regard for the conservation of biodiversity, in accordance with the CBD. In addition, it requires that The Secretary of State publishes a list of living organisms and habitat types that are considered to be of principal importance in conserving biodiversity.
- A.24 CROW also amends the WCA, expanding the terms of offences to include reckless activity. It increases the legal protection of threatened species, by also making it an offence to “recklessly” obstruct access to a sheltering place used by an animal listed in Schedule 5 of the WCA or “recklessly” disturb an animal occupying such a structure or place.

Natural Environment and Rural Communities (NERC) Act 2006

- A.25 Section 40 of the Natural Environment and Rural Communities Act 2006 (NERC)³² places a duty to conserve biodiversity on public authorities in England. It requires local authorities and government departments to have regard to the purposes of conserving biodiversity in a manner that is consistent with the exercise of their normal functions such as policy and decision-making. 'Conserving biodiversity' may include enhancing, restoring or protecting a population or a habitat.
- A.26 Section 41 requires the Secretary of State to publish and maintain lists of species and types of habitats which are regarded by Natural England to be of "principal importance" for the purposes of conserving biodiversity in England.
- A.27 These habitats and species of principal importance (HPI and SPI) are drawn from earlier lists of United Kingdom Biodiversity Action Plan Priority Species and Habitats. The Section 41 (S41) lists of HPI and SPI are needed by decision-makers in local and regional authorities when carrying out their duties under Section 40 of the Act.

³¹ Countryside and Rights of Way Act 2000 c. 37 <https://www.legislation.gov.uk/ukpga/2000/37/>

³² Natural Environment and Rural Communities Act 2006 c. 16 <https://www.legislation.gov.uk/ukpga/2006/16/>

Environment Act 2021

- A.28 The Environment Act 2021³³ was passed into law in November 2021. The Act applies only to England, although many of its measures are designed to be operable across the UK with the consent of devolved administrations. The Act requires statutory long-term (15+ years) targets to be set (and monitored, reported and reviewed) in the four priority areas of waste reduction, air quality, water resources and biodiversity as well as additional targets relating to species abundance and fine particulates by 2030.
- A.29 The Environment Act amends the Town and Country Planning Act 1990³⁴ in that planning permissions granted after the provisions come into force³⁵ are deemed to be subject to a condition prohibiting the start of development before a biodiversity gain plan has been submitted to and approved by the Local Planning Authority (LPA).
- A.30 The biodiversity gain plan must demonstrate a net gain of at least 10% in the biodiversity value of the development site “as at the time the development is completed”. Biodiversity net gain must be demonstrated by calculations using the biodiversity metric (currently version 3.1 published by Natural England)
- A.31 The Environment Act introduces Local Nature Recovery Strategies (LNRS), a new system of spatial strategies for nature, covering the whole of England. LNRS are to be prepared and published by the ‘responsible authority’, namely the local authority, mayoral authority or National Park authority whose area is, or is within, the strategy area, the Broads Authority or Natural England. Section 40 of the NERC Act (duty to conserve biodiversity) makes provision about the duties of public authorities in relation to LNRS.
- A.32 A ‘responsible authority’ is to be appointed to lead each LNRS area, which could include LPAs and which in mayoral combined authorities is highly likely to be the mayor. The responsible Authority must map the most valuable existing natural habitat in its area and develop a biodiversity strategy, including specific proposals for creating or improving habitats and priorities for nature recovery.
- A.33 In addition to the above, the Environment Act Part 6 (Nature and biodiversity) will also:
- Strengthen the biodiversity duty through amendments to Section 40 of the NERC Act.

³³ Environment Act 2021 c.30 <https://www.legislation.gov.uk/ukpga/2021/30/>

³⁴ Town and Country Planning Act 1990 c. 8 <https://www.legislation.gov.uk/ukpga/1990/8/>

³⁵ The Biodiversity Gain provision of the Environment Act requires the Secretary of State to first publish detailed regulations (see s147(3) of the Act). These are anticipated in November 2023.

- Impose a duty upon Local Authorities to consult on street tree felling;
- Strengthen woodland protection enforcement measures;
- Introduce Conservation Covenants (agreements between a landowner and a responsible body);
- Protected Site Strategies (prepared and published by Natural England) to improve the conservation and management of a protected site (including SACs, SPAs listed before exit day, Sites of Community Importance (SCI)³⁶ listed before exit day and those sites proposed before exit day as SACs).
- Species Conservation Strategies (prepared and published by Natural England) to improve the conservation status of any species of flora or fauna, with which a LPA in England and any prescribed authority must have regard so far as relevant to its functions, including when discharging its duties under the 2017 Regulations (as amended);
- Prohibit larger UK businesses from using commodities associated with wide-scale deforestation (where ‘forest’ is defined as “an area of land of more than 0.5 hectares with a tree canopy cover of at least 10% (excluding trees planted for the purpose of producing timber or other commodities)”, which includes “land that is wholly or partly submerged in water whether temporarily or permanently”);
- Require regulated businesses to establish a system of due diligence for each regulated commodity used in their supply chain, requires regulated businesses to report on their due diligence, introduces a due diligence enforcement system.

Hedgerow Regulations 1997

A.34 Important hedgerows are protected from removal by the Hedgerows Regulations³⁷ (as amended). Regulation 3 defines the hedgerows to which the Regulations apply. Regulation 4 sets out the criteria for identifying “important hedgerows” including ecological, landscape or historical/cultural reasons. Under the Hedgerow Regulations it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. Works to “important hedgerows” are exempt under the Hedgerow Regulations if planning consent is granted which allows their removal.

³⁶ SCIs are established under the European Union Habitats Directive (92/43/EEC) and are (under the Habitats Directive) the pre-requisite step for establishing SACs and SPAs.

³⁷ The Hedgerow Regulations 1997 (SI 1997/1167) <https://www.legislation.gov.uk/ukssi/1997/1160/>

- A.35 The identification of important hedgerows also provides an additional means to value hedgerows aside from their botanical value (e.g. species richness) as the assessment of importance also includes characteristics relating to maturity and structure (e.g. associated features, connectivity, integrity) which will affect the functional value of the hedgerow.

Protection of Badgers Act 1992

- A.36 Badgers and their setts receive statutory protection under the Protection of Badgers Act 1992 (PBA)³⁸. This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett.
- A.37 Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as “any structure or place, which displays signs indicating current use by a badger.”

Wild Mammals (Protection) Act 1996

- A.38 All UK wild mammals are afforded a degree of protection from certain cruel acts. The Act is intended to preserve animal welfare more so than nature conservation. The Act makes it an offence to use a variety of methods to intentionally cause suffering to a wild mammal. It also has exemptions including in relation to euthanasia and otherwise lawful use of certain methods of killing.

Relevant National Policy

National Planning Policy Framework

- A.39 The National Planning Policy Framework (NPPF23)³⁹ sets out the Government’s planning policies for England and how these are expected to be applied at a local level in development plans and how developers should address them. The Framework places great emphasis on plans and developments contributing to sustainable development.
- A.40 Policy relating to sustainable design, climate resilience and green infrastructure are integrated throughout the NPPF. Relating to the planning and delivery of large-scale developments, Paragraph 22 requires that a vision should look at least 30 years ahead.

³⁸ Protection of Badgers Act 1992 c. 51 <https://www.legislation.gov.uk/ukpga/1992/51/>

³⁹ National Planning Policy Framework (2023). Department for Levelling Up, Housing and Communities. <https://www.gov.uk/government/publications/national-planning-policy-framework-2>

- A.41 Paragraph 73 identifies a number of considerations to help guide such large-scale proposals including consideration of opportunities presented by the scope for net environmental gains, ensuring sustainable communities, quality of places, rates of delivery and establishment of Green Belt around or adjoining new developments of significant size.
- A.42 Paragraph 131 states that “Planning policies and decisions should ensure that new streets are tree-lined and that opportunities are taken to incorporate trees elsewhere in developments and that appropriate measures are put in place to secure the long-term maintenance of newly planted trees, and that existing are retained where possible.”
- A.43 Paragraph 153 state that plans should take a proactive approach to mitigating and adapting to climate change, considering the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts.
- A.44 Furthermore paragraph 154 requires that new development should be planned to avoid increased impacts from climate change. In areas which are vulnerable from impacts of climate change these should be mitigated against and managed through suitable adaption measures, such as green infrastructure.
- A.45 Part 15 Paragraphs 174 to 188 relate expressly to conserving and enhancement the natural environment. Paragraph 174 requires that planning policies and decisions should contribute to and enhance the natural and local environment by:
- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
 - recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
 - maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
 - minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
 - preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise

pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

- A.46 Paragraphs 175 and 176 relate designated sites, prioritising allocation of land with least environmental or amenity value, establishing a strategic approach to maintaining and enhancement landscape networks and the sensitive location and design of development within the setting of designated sites to avoid or minimise impacts upon those sites.
- A.47 Paragraphs 179 to 182 specifically relate to habitats and biodiversity. Under paragraph 179, plans should identify, map and safeguard designated sites of importance for biodiversity and wider ecological networks (corridors and stepping stones) that connect them, promote conservation, restoration and enhancement of these networks, priority habitats and priority species recovery in addition to pursuing measurable biodiversity net gain.
- A.48 Paragraph 180 requires local planning authorities to apply the following principles when determining planning applications:
- if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
 - development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
 - development resulting in the loss or deterioration of irreplaceable habitats⁴⁰ should be refused, unless are wholly exceptional reasons and a suitable compensation strategy exists; and;

⁴⁰ Noted by NPPF23 as “Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen”.

- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”

A.49 Paragraph 181 stipulates that the following should be given the same protection as habitats sites⁴¹:

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

A.50 Paragraph 182 confirms the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

A.51 Paragraphs 183 to 188 relate to ground conditions and pollution, including light pollution. Paragraph 185(c) requires policies and planning decisions ensure that new developments limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

Government Circular 06/2005

A.52 Government Circular 06/2005⁴² remains pertinent in national policy even though PPS9, which it originally supported, was revoked by the NPPF. NPPF23 references the Circular and the guidance contained within, namely the statutory obligations for biodiversity and geological conservation and their impact within the planning system.

⁴¹ Defined by NPPF23 as “Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites”.

⁴² Office of the Deputy Prime Minister (2005) ‘Government Circular: Geological and Biological Conservation – Statutory obligations and their implications within the planning system’ ODPM circular 06/2005, DEFRA circular 01/2005
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf

- A.53 The Circular provides guidance on the protection of designated international and national nature conservation sites, non-designated sites, the conservation of species, and advice on the related issues and statutory powers.
- A.54 Part IV relates to conservation of species protected by law and confirms the presence of such a species is a material consideration for planning decisions. Paragraph 99 states *“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have addressed in making the decision”*.
- A.55 Paragraphs 104 to 117 summarise legal status of species afforded protection under the Habitats Regulations (now, the 2017 Regulations) and the licensing process while paragraphs 118 to 122 explain the same for species afforded protection under the WCA. Paragraphs 123 and 124 summarise the protective status of badgers under the PBA. Paragraph 124 states that *“the likelihood of disturbing a badger sett, or adversely affecting badgers’ foraging territory, or links between them, or significantly increasing the likelihood of road or rail casualties amongst badger populations, are capable of being material considerations in planning decisions. Although consideration of the case for granting a licence is separate from the process of applying for planning permission, a planning authority should advise anyone submitting an application for development in an area where there are known to be badger setts that they must comply with the provisions of the Act”*.



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Annex B: Bat Survey Report (TEP Ref: 10179.005)



Waterfront Square, Reading

Berkshire

Bat Survey Report: Buildings

Prepared For: Packaged Living

Document Reference: 10179.005

Date: October 2024

Version: 1.0

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APPENDIX 1 – Nocturnal Surveys of Buildings

DRAWINGS – G10179.007B Phase 1 habitat survey

1.0 Introduction

- 1.1 TEP was commissioned by Packaged Living in 2023 to undertake an Ecological Impact Assessment (EclA) in support of a planning application for residential development at Waterfront Square, located at Norman Place, Reading, Berkshire (hereafter referred to as the 'Scheme).
- 1.2 Bat surveys were undertaken as part of this assessment which are outlined in full within this report. This report should be read in conjunction with the EclA report (TEP Ref: 10179.002). This report refers to surveys undertaken of buildings only; details regarding the Ground Level Tree Assessment (GLTA) for bats can be found within the EclA report.

Purpose of this Document

- 1.3 This report has the following objectives:
- give an overview of the habitats present within the site which could be used by bats for roosting; and
 - identify and characterise any confirmed bat roosts within the site, including species, type and status of roost.

Legislation

- 1.4 All bat species and their roosts are legally protected in the UK. All bats are listed as European Protected Species (EPS) in Conservation of Natural Habitats and of Wild Fauna and Flora, better known as the Habitats Directive. There is also protection for bats and roosts in England and Wales under the Wildlife & Countryside Act 1981 (as amended).
- 1.5 It is a criminal offence if any persons:
- deliberately capture, injure or kill a bat;
 - intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
 - damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
 - possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; or
 - intentionally or recklessly obstruct access to a bat roost.

Scheme Description

- 1.1 Waterfront Square is located on Norman Place, Reading, Berkshire and lies adjacent to the River Thames. The location of the Scheme is depicted by the red line shown in Figure 1. The approximate central grid reference of the Scheme is SU 71667 74058.
- 1.2 The Scheme boundary measures approximately 0.54 hectares. The Scheme is formed predominately of a large building and areas of associated hardstanding. There are also small areas of introduced shrub, amenity grassland, scattered scrub, and scattered trees.
- 1.3 The wider area comprises the River Thames to the north of the Scheme, and the built up residential and commercial areas of Reading. There are areas of public open space to the north and east of the Scheme.

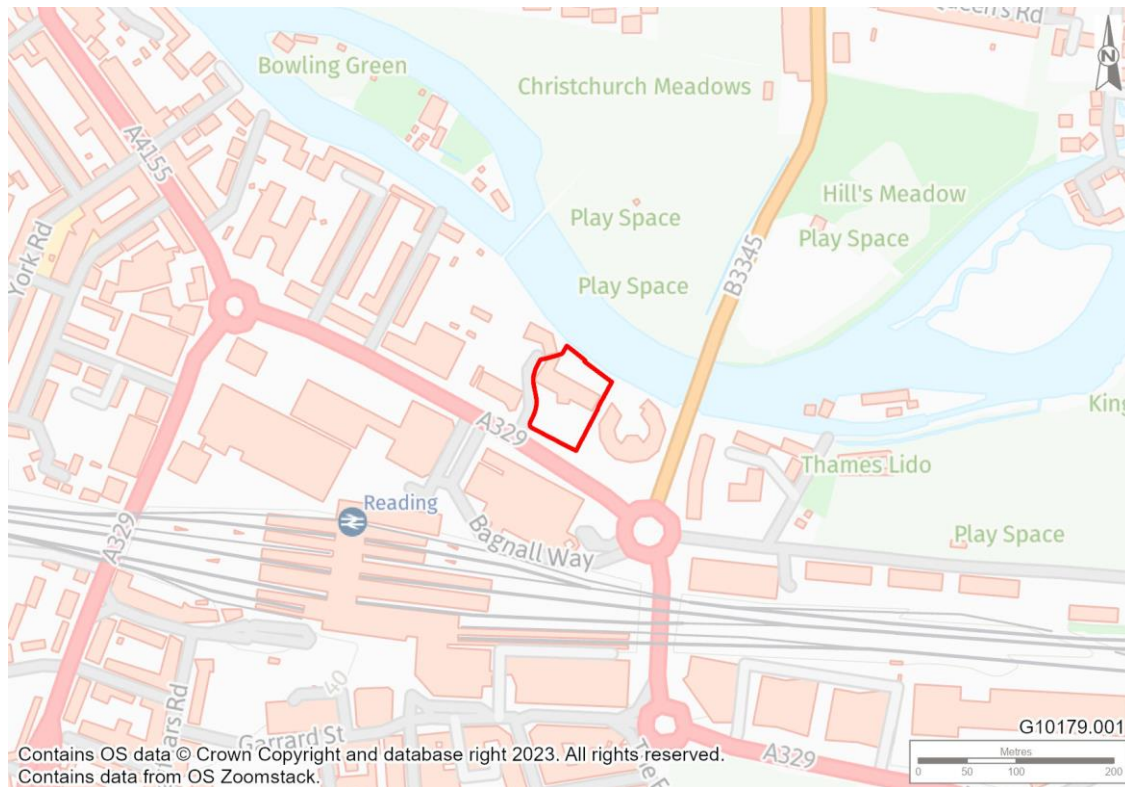


Figure 1: Scheme Location and Context

2.0 Methods

2.1 The following bat surveys were undertaken in accordance with the Bat Conservation Trust (BCT) Survey Guidelines (Collins, 2023¹).

Desk Study

2.2 Information regarding historic flora and fauna species records, protected habitats and protected sites was collated as part of a desk study which was completed by TEP in July 2024 (TEP Ref: 10179.001).

Roost Surveys

Buildings

Preliminary Roost Assessment

- 2.3 A daytime building external and internal survey was carried out at all buildings on site (B1, B2 and B3) by Aven Ecology on 13th June 2024. This provides an update to a previous preliminary roost assessment carried out by TEP on 29th November 2023.
- 2.4 The buildings were inspected both externally and internally for field signs of bats such as droppings, scratch marks, insect remains and urine smear marks. Buildings outside of the Site were inspected externally. Binoculars and an endoscope were used as aids. The survey was conducted with year-round use by bats in mind.
- 2.5 Buildings were categorised according to their bat roost suitability as determined by the characteristics and potential roost features (PRF) detailed in Table 1.

Table 1: Categorisation of buildings for bat roost suitability

Suitability	Characteristics		Potential Roost Features
High	Several of the following features:	Pre – 20th century buildings. Agricultural buildings of traditional brick, stone or timber construction. Large unobstructed flying spaces. Roof warmed by sun, in particular south facing roofs without shade. Large roof timbers with gaps at joints (e.g. mortise joints), cracks and	PRF that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time (e.g. maternity/hibernation) due to their size, shelter, protection, conditions and surrounding habitat.

¹ Collins, J (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London

Suitability	Characteristics		Potential Roost Features
Moderate	<i>Some of the following features:</i>	holes. Numerous access points for bats to fly into. Buildings near woodland and/or water. Low levels of disturbance. Buildings may be poorly maintained or aged, providing access points for bats into roof structures or crevices in bridges, but at the same time not too draughty, wet or cool.	One or more PRF that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (maternity/hibernation).
Low	Modern/intact buildings with few potential access points for bats. Brick buildings often with pitched slate or tile roofs but may have small or cluttered roof space. Flat roofed buildings with weatherboards or similar feature at the eaves with potential bat access behind or into building. Cooler, shaded, light or draughty voids. Buildings often lacking connectivity to woodland or areas of water.		One or more PRF that could be used by individual bats opportunistically, however, these PRFs do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.
Negligible	Flat roof structures lacking weatherboards, hanging slates or cladding. Modern/intact buildings with no bat access points. Lacking connectivity to any woodland or areas of water. High levels of regular disturbance. High levels of internal/external lighting. Buildings in very poor condition such that internal spaces are not weatherproof, being exposed to high levels of light, wind and/or rain.		Negligible habitat features on site likely to be used by roosting bats.

Survey Constraints

- 2.6 Bat droppings are one of the field signs the survey looks to identify as evidence of bat activity. However, droppings on external surfaces can be washed or blown away by weather. Weather prior to and during the daytime external and internal survey was calm with no rain and therefore there was no significant constraint to the external inspections.
- 2.1 Internal access to buildings B2 and part of B3 was not possible due to access restrictions. The buildings are currently void of electricity and key-fobs that provide entrance to B2 require electricity to work, therefore no internal inspection of B2 could be undertaken.
- 2.2 B3 is internally divided into two parts and the southern end is an electricity substation. No access could be gained to this part of the building for health and safety restrictions.

Nocturnal Roost Surveys of Buildings

- 2.7 All of the buildings B1, B2 and B3 were identified during the daytime evaluation to have some suitability for roosting. These buildings were therefore subject to further nocturnal surveys in accordance with their evaluation (high, moderate or low suitability receiving three, two or one nocturnal survey, respectively).
- 2.8 Surveys were led by suitably qualified ecologists from Aven Ecology between June and August 2024. Building 1 was surveyed on 19th June, 11th July and 13th August; Building 2 on 13th June and Building 3 on the 11th June.
- 2.9 Surveyors were stationed at fixed vantage points around the buildings such that all elevations and gables were in view. All potential building access points for bats were covered by strategic placements of surveyors. A combination of dusk emergence and dawn re-entry surveys were used. Dusk emergence surveys commence 15 minutes before sunset and finish 1.5 hours after sunset. Dawn re-entry surveys commence 1.5 hours before sunrise and finish 15 minutes after sunrise.
- 2.10 One full spectrum detector (Batlogger M) was employed at each vantage point on all surveys. Radios were utilised for communicating between surveyors to reduce interference from mobile phones and to enable coordination when recording observations. Night Vision Aid cameras (NVA) were also used on all surveys at all vantage points.
- 2.11 During each survey observations such as bat species, the number of bats entering or leaving the building, the location of entry and exit points, behaviours such as close interest in a building or its features, commuting or passing bats and weather conditions were recorded.
- 2.12 Weather conditions were recorded at the start and end of surveys in addition to any significant change in condition during the survey. Standardised methods of measuring and recording weather parameters were used e.g., cloud cover (Oktas) and wind (Beaufort Scale). Surveys were scheduled during optimum weather conditions comprising dusk temperatures of $\geq 10^{\circ}\text{C}$ and no rain or strong winds (>4 on the Beaufort Scale). Where sub-optimal weather conditions were recorded during surveys, surveyors noted whether bat activity was affected to determine whether surveys remained valid.
- 2.13 Weather was optimal during all the nocturnal surveys, being dry with little breeze and temperatures ranging from 17°C at the start to 12°C at the finish. Surveys were carried out during the optimal survey period of the year (mid-April to mid-September).

- 2.14 Calls of bats recorded by the frequency division detectors were analysed to verify species identification after the completion of nocturnal surveys using Bat Explorer software by Aven Ecology.

Survey Constraints

- 2.15 The height of B1 restricted the utility of the Nightfox infra-red cameras on account of their requirement to be placed at a close range in order to detect bats; one was used on the roof balcony during the first survey of B1, though no bats were recorded on the camera, or seen by the surveyor. Therefore, three thermal cameras and the Canon XA11 infra-red cameras were used, as these have a better detection utility at longer range. The thermal cameras also needed to be positioned back from the building in order to reach the higher soffits.
- 2.16 Some areas of the roof were too high/far back to cover with NVAs.
- 2.17 The southern and western elevations of the building B1 were open to the public, with people frequently walking through as a passageway provided access to the river bank path. NVAs therefore had to be manned at all times and no static detectors could be left unattended, particularly along the western elevation and south-western corner.
- 2.18 Due to the proximity of the eastern elevation of B1 to the Scheme boundary (and associated tree canopy cover), it was not possible to cover this elevation directly. Surveyors had to be positioned away from the building to view the soffits, especially with NVAs. The Scheme boundary and associated vegetation prevented this.
- 2.19 The third survey visit for B1 started slightly late due to access issues and security guard presence. However, the survey started before sunset and bats were not recorded until sometime after the survey had started; therefore, this is not seen as a constraint.
- 2.20 Light drizzle fell intermittently during the dawn survey on 14th August 2024; however, as bats were recorded during the survey (including their return to roosts on the target structure) this was not thought to be a material constraint to the survey.

Data Analysis and Species Identification

- 2.21 Recorded data was analysed following completion of the static recording periods using Bat Explorer software. Data analysis was completed by suitably trained Aven Ecology staff.
- 2.22 No automated filters or automated identification packages have been applied during sonogram analysis.

- 2.23 The detectability of some bat species, such as *Plecotus* and *Barbastella*, is lower than that of, for example, *Nyctalus* and *Pipistrellus*. The echolocation calls of *Plecotus* and *Barbastella* are comparatively more difficult to detect with bat detectors. Careful interpretation has been applied when comparing survey results across species.

3.0 Results

Desk Study

- 3.1 A review of Natural England's open datasets for granted protected species licences returned 11 licences for bats within 2km of the Scheme, the closest of which being 185m south-east of the Scheme, granted in 2017. Licences have been attained for a variety of species including common *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, Daubenton's bats *Myotis daubentonii* and serotines *Eptesicus serotinus*.
- 3.2 A total of 988 bat species records were returned within 2km of the Scheme, the closest records returned were adjacent to the Scheme. Records were received for a variety of species, including:
- Brown long-eared bat *Plecotus auritus*;
 - Common pipistrelle *Pipistrellus pipistrellus*;
 - Daubenton's bat *Myotis daubentonii*;
 - Lesser noctule (Leisler's) *Nyctalus leisleri*;
 - Myotis bat species *Myotis sp.*;
 - Nathusius' pipistrelle *Pipistrellus nathusii*;
 - Natterer's bat *Myotis nattereri*;
 - Noctule bat *Nyctalus noctula*;
 - Serotine *Eptesicus serotinus*;
 - Soprano pipistrelle *Pipistrellus pygmaeus*;
 - Western barbastelle *Barbastella barbastellus*; and
 - Whiskered/Brandt's bat *Myotis mystacinus/brandtii*.

Roost Surveys

Buildings

Preliminary Roost Assessment

- 3.1 The detailed findings and a photographic record of the daytime building assessments are presented in Table 2. Drawing G10179.007B illustrates the locations for each building.

3.2 Based on the daytime surveys, buildings B1 was assessed to have low suitability for roosting bats and buildings B2 and B3 were assessed to have precautionary moderate suitability for roosting bats, due to internal access restrictions.

Table 2: Results of daytime building inspections

Ref	Description	Photographs
B1	Large building currently used as office space. Some gaps under soffits and above window frames, on exterior of building. Cavity present within roof space which could provide roosting feature.	
	Roost suitability: Low (this was upgraded following results of nocturnal surveys)	 

Ref	Description	Photographs
B2	Garage building with suspected lead flashing at the apex of the roof. Doors had been removed and there was a large gap present leading the internal structure at the top of both of the doors.	 
	<i>Roost suitability: Precautionary Moderate</i> (due to access restrictions, this was downgraded following results of nocturnal surveys)	
B3	Half of the building is a current electricity substation, and the other is utilised as a bin store currently. Some gaps underneath external tiles present and gaps in shutters that could lead to suitability roosting space internally.	
	<i>Roost suitability: Precautionary Moderate</i> (due to access restrictions, this was downgraded following results of nocturnal surveys)	

Ref	Description	Photographs
		

Nocturnal Roost Surveys of Buildings

- 3.3 Following the Preliminary Roost Assessment, nocturnal surveys were undertaken as per the BCT Survey Guidelines (2023)². Details of the nocturnal survey results are presented at Appendix 1 and the locations of buildings are illustrated in Drawing G10179.007B.
- 3.4 On Building B1, counts of four common pipistrelle bats were recorded emerging from the building during the first visit; three were from the soffits in the south-east corner of the building (Figure 2) and another common pipistrelle was seen emerging from the roof of the balcony on the northern aspect (*unconfirmed due to reach of NVA equipment*) (Figure 3).
- 3.5 During visit 2, one common pipistrelle was recording potentially emerging from the roof balcony (Figure 3) and four common pipistrelle bats were recorded re-entering B1 via the soffit in the south-east corner (Figure 2).

² Collins, J (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London

- 3.6 Finally, during visit 3, two common pipistrelle bats were recorded emerging from the roof tiles on the southern aspect of the building (Figure 4) and one common pipistrelle was recorded re-entering the building via the soffit in the south-east corner (Figure 2) on the same visit.
- 3.7 The locations of these features are shown below in Appendix 1, with the sketches for each survey and photographs of these features also provided in Figures 2-4.



Figure 2: Soffit on south-east corner



Figure 3: Roof of balcony on northern aspect



Figure 4: Roof tiles on southern aspect

- 3.8 No other buildings (B2 and B3) were recorded to support roost activity during the nocturnal surveys.

- 3.9 Other bat species recorded during the nocturnal building surveys included common pipistrelle, soprano pipistrelle and noctule *Nyctalus noctula*. The majority of these bats were observed foraging around the buildings and nearby trees and hedges.

4.0 Conclusions

- 4.1 A Preliminary Roost Assessment (PRA) and bat nocturnal surveys were undertaken for three buildings (B1, B2 and B3) present at Waterfront Square/Norman Place, Reading in support of a residential planning application.
- 4.2 The PRA concluded that building B1 had Low suitability for roosting bats and that buildings B2 and B3 had moderate (although precautionary due to access restrictions) suitability for roosting bats.
- 4.3 As per the BCT Survey Guidelines (2023), nocturnal surveys were therefore undertaken on these buildings between June and August 2024.
- 4.4 During visit 1 of building B1, bat emergence was recorded and therefore this building was upgraded, and three surveys were subsequently undertaken, in line with the BCT Guidelines.
- 4.5 During visit 1 of both buildings B2 and B3, very little activity was recorded and so these buildings were downgraded to Low suitability and therefore only one survey was undertaken at each. No roosts were recorded within these buildings.
- 4.6 Confirmed roosting was recorded within building B1 during all three nocturnal surveys and three access points/roost locations have been identified. These are located within the soffit boards in the south-east corner of the building; the corner of the roof on the balcony on the northern aspect; and the roof tiles on the southern aspect of the building.
- 4.7 Small numbers of common pipistrelle were recorded emerging from the building and so it is likely that the roosts recorded are day roosts; roosts where small numbers of bats, usually males, will rest or shelter in the day over the summer.
- 4.8 In order to proceed with works, and demolition of the buildings, a licence from Natural England will be required. Full impacts and recommendations are detailed within the Ecological Impact Assessment report produced for this Scheme (TEP Ref: 10179.002).

Appendix 1

Nocturnal Surveys of Buildings

Surveys Completed

Building Ref	Visit Nr	Date	No. of Surveyors/Vantage Points	Comment
B1	1	19/06/2024	3	Incidental sightings of potential bat emergences from B1 were identified during the survey of B3, leading to initial recommendations of further surveys of B1. As well as this, during the survey of B2, high levels of foraging activity were recorded along the northern elevation of B1. Two bat emergences were confirmed on this survey through the use of thermal cameras, and two potential emergences were also recorded. All thought to be common pipistrelle. Approach to surveys amended, and following surveys of B1 were dusk and dawns with three surveyors/six positions.
	2	11/07/2024	6	One emergence over the balcony on the northern aspect during the dusk survey and 4x re-entry on the south east corner during the dawn survey.
	3	13/08/2024	6	Two emergences from roof tiles on southern aspect during the dusk survey and one re-entry on the south east corner during the dawn survey.
B2	1	13/06/2024	2	The survey of B2 was quiet with little bat activity, leading to B2 being downgraded from 'Precautionary Moderate' to 'Low' potential to support roosting bats. Only one survey was therefore carried out on B2.

B3	1	11/06/2024	2	The survey of B3 was quiet with little bat activity, leading to B3 being downgraded from 'Precautionary Moderate' to 'Low' potential to support roosting bats. Only one survey was therefore carried out on B3.
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Bat Species Key:

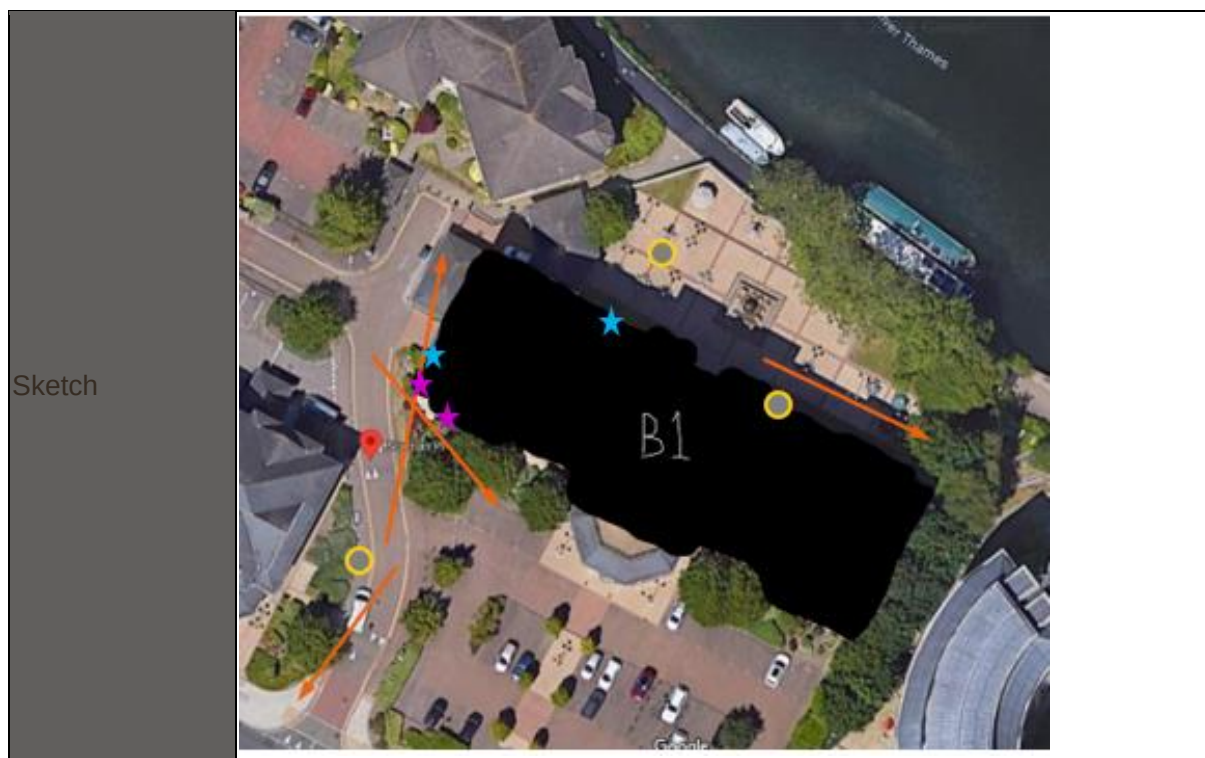
PIPPIP	Common pipistrelle
PIPPYG	Soprano pipistrelle
PIP NAT	Nathusius' pipistrelle
MYO	Myotis species
NYCNOC	Noctule
PLEAUR	Brown long-eared bat

Sketch Key:

	Building
	Surveyor location
	Main flight line(s)
	Observed emergence/re-entry point
	Possible emergence/re-entry point

Building 1 – Visit 1

Date	19/06/24	Type	Emergence	Sunset	21:24				
Start	21:06	Air Temp	19	Cloud	1	Wind	2	Rain	0
Finish	22:54	Air Temp	17	Cloud	1	Wind	2	Rain	0
Roosting									
Species:		PIPPIP							
First Contact:		21:47	Species	PIPPIP	Last Contact:		22:57	Species	PIPPYG
Emergence/Re-entry point(s)		21:46 lead flashing on northern corner of eastern elevation, 21:56 – window frame, 21:58 – soffit board (possible), 22:16 - window frame (possible)							
Activity Summary									
Species		Activity Period		Total est. contacts		General Activity/Behaviour			
PIPPIP, PIPPYG, NYCNOC		1hr10m		58		Foraging around building and nearby trees			
Commuting		No obvious commuting routes							
Foraging		Foraging around buildings soffit and nearby trees							



Building 1 – Visit 2 (Dusk)

Date	11/07/24	Type	Emergence	Sunset	21: 18				
Start	21:03	Air Temp	16	Cloud	5	Wind	2	Rain	0
Finish	22:48	Air Temp	15	Cloud	6	Wind	2	Rain	0

Roosting

Species:	PIPPIP						
First Contact:	21:22	Species	PIPPYG	Last Contact:	22:45	Species	PIPPYG
Emergence/Re-entry point(s)	21:56 – roof of balcony on north west aspect						

Activity Summary

Species	Activity Period	Total est. contacts	General Activity/Behaviour
PIPPIP, PIPPYG	1hr23m	212	Foraging around soffit and roof of building
Commuting	No obvious commuting routes		
Foraging	Foraging around buildings and nearby trees		

Building 1 – Visit 2 (Dawn)

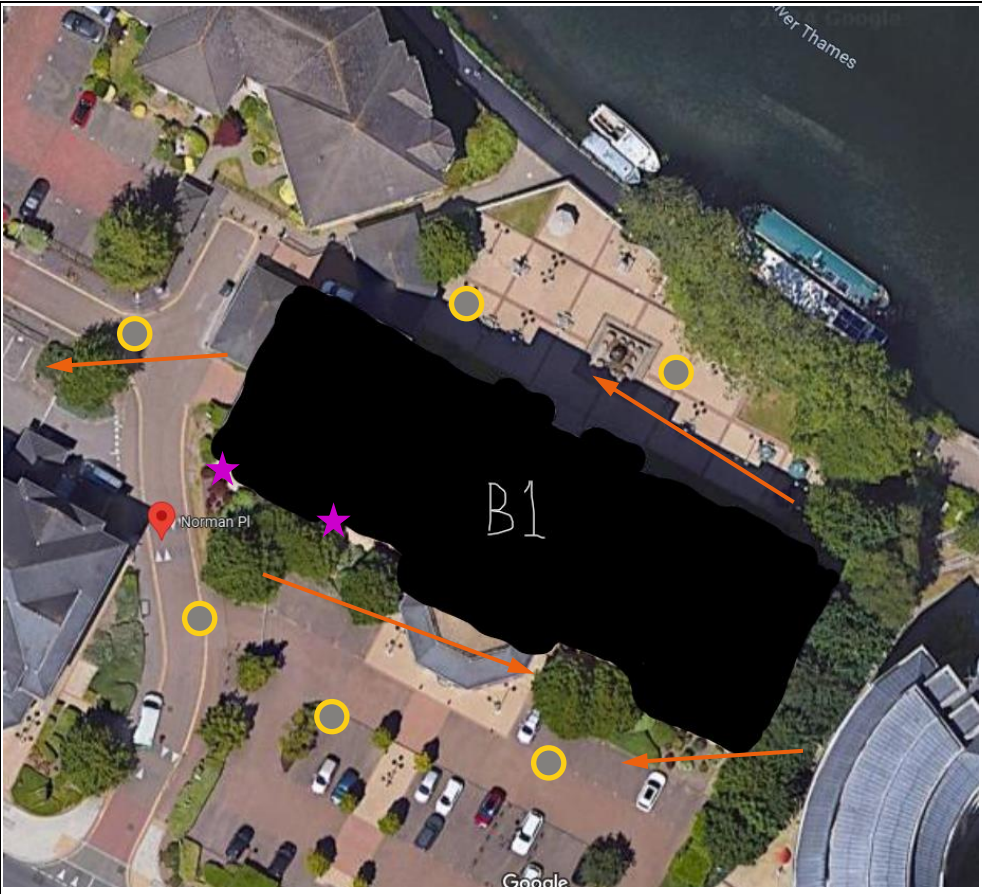
Date	12/07/24	Type	Re-emergence	Sunrise	05:02				
Start	03:32	Air Temp	15	Cloud	8	Wind	3	Rain	0
Finish	05:17	Air Temp	15	Cloud	6	Wind	2	Rain	0

Roosting

Species:	None								
First Contact:	03:37	Species	PIPPIP	Last Contact:	04:30	Species	PIPPIP		
Emergence/Re-entry point(s)	04:20 – soffit on southwest corner of building x4								
Activity Summary									
Species	Activity Period	Total est. contacts		General Activity/Behaviour					
PIPPIP, PIPPYG	53m	160		Foraging over rear of B1					
Commuting	No obvious commuting routes								
Foraging	Foraging around building and nearby trees								
Sketch									
Building 1 – Visit 3 (Dusk)									
Date	13/08/24	Type	Emergence	Sunset	20:41				
Start	20:26	Air Temp	18	Cloud	8	Wind	1	Rain	0
Finish	22:11	Air Temp	17	Cloud	8	Wind	1	Rain	0
Roosting									
Species:	PIPPIP								
First Contact:	20:47	Species	PIPPIP	Last Contact:	21:55	Species	PIPPIP		

Emergence/Re-entry point(s)		20:42 and 21:01 – roof tiles on southern aspect,							
Activity Summary									
Species		Activity Period		Total est. contacts		General Activity/Behaviour			
PIPPIP, PIPPYG		1hr8m		120		Foraging around building and nearby trees			
Commuting		No obvious commuting routes							
Foraging		Foraging around trees							
Building 1 – Visit 3 (Dawn)									
Date	14/08/24	Type	Re-emergence	Sunrise	05:49				
Start	03:32	Air Temp	17	Cloud	8	Wind	1	Rain	Light
Finish	05:50	Air Temp	17	Cloud	8	Wind	1	Rain	Light
Roosting									
Species:		PIPPIP							
First Contact:		04:18	Species	PIPPIP	Last Contact:	05:42	Species	PIPPYG	
Emergence/Re-entry point(s)		05:20 – re-entry into southwest corner							
Activity Summary									
Species		Activity Period		Total est. contacts		General Activity/Behaviour			
PIPPIP, PIPPYG		1hr24m		451		Foraging around trees and building			
Commuting		No obvious commuting routes							
Foraging		Foraging around building and nearby trees							

Sketch

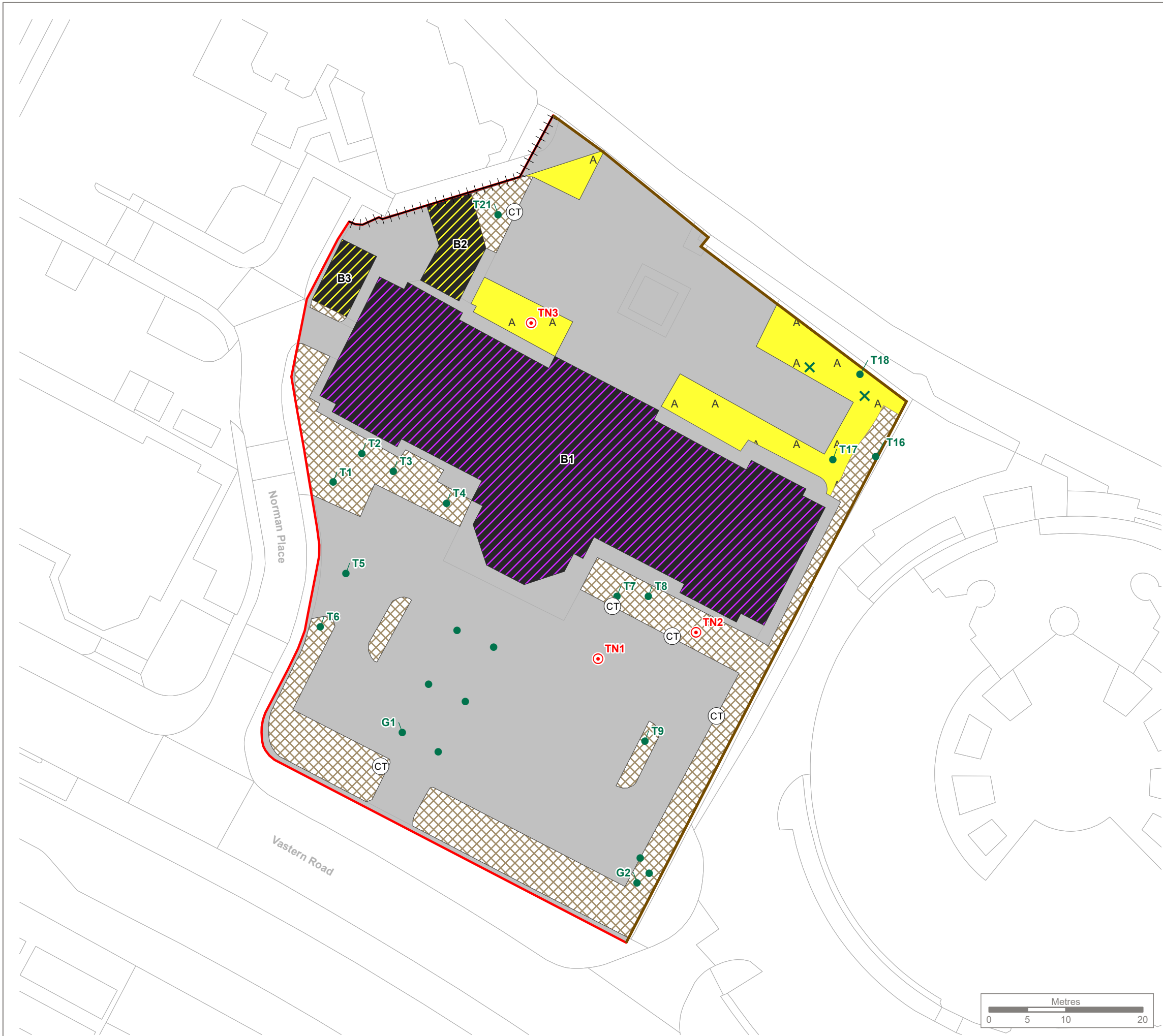


Building 2									
Date	13/06/24	Type	Emergence	Sunset	21:22				
Start	21:06	Air Temp	13	Cloud	8	Wind	3	Rain	Light
Finish	22:52	Air Temp	12	Cloud	8	Wind	1	Rain	0
Roosting									
Species:	None								
First Contact:	21:23	Species	PIPPIP	Last Contact:	22:00	Species	PIPPIP		
Emergence/Re-entry point(s)	N/A								
Activity Summary									
Species	Activity Period	Total est. contacts		General Activity/Behaviour					
PIPPIP, PIPPYG	37m	179		Foraging over rear of B1					
Commuting	No obvious commuting routes								
Foraging	Foraging at rear of buildings, near to B1								
Sketch									

Building 3									
Date	11/06/24	Type	Emergence	Sunset	21:21				
Start	21:03	Air Temp	13	Cloud	6	Wind	1	Rain	0
Finish	22:51	Air Temp	12	Cloud	6	Wind	1	Rain	0
Roosting									
Species:	None								
First Contact:	21:29	Species	PIPPIP	Last Contact:	22:41	Species	PIPPYG		
Emergence/Re-entry point(s)	N/A								
Activity Summary									
Species	Activity Period	Total est. contacts		General Activity/Behaviour					
PIPPIP, PIPPYG	1hr12m	139		Foraging over rear of B1					
Commuting	No obvious commuting routes								
Foraging	Foraging at rear of buildings, near to B1								
Sketch									

Drawings

G10179.007B – Phase 1 habitat survey



KEY

- Site boundary
- Target note
- Cotoneaster
- Scattered scrub
- Scattered broad-leaved tree
- Fence
- Wall
- Amenity grassland
- Introduced shrub
- Building
- Hardstanding

Building Assessment for Bat Roost Potential

- Confirmed roost
- Low

Note:
The locations of habitats and habitat features are indicative.

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B	Updated bat roost assessment results.	IJ	MB	03/10/2024
A	Site boundary updates	CW	ACP	03/07/2024
Rev	Description	Drawn	Approved	Date



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Project
Waterfront Square, Reading

Title
Phase 1 Habitat Survey

Drawing Number
G10179.007B

Drawn	Checked	Approved	Scale	Date
IJ	MK	MB	1:500 @ A3	03/10/2024



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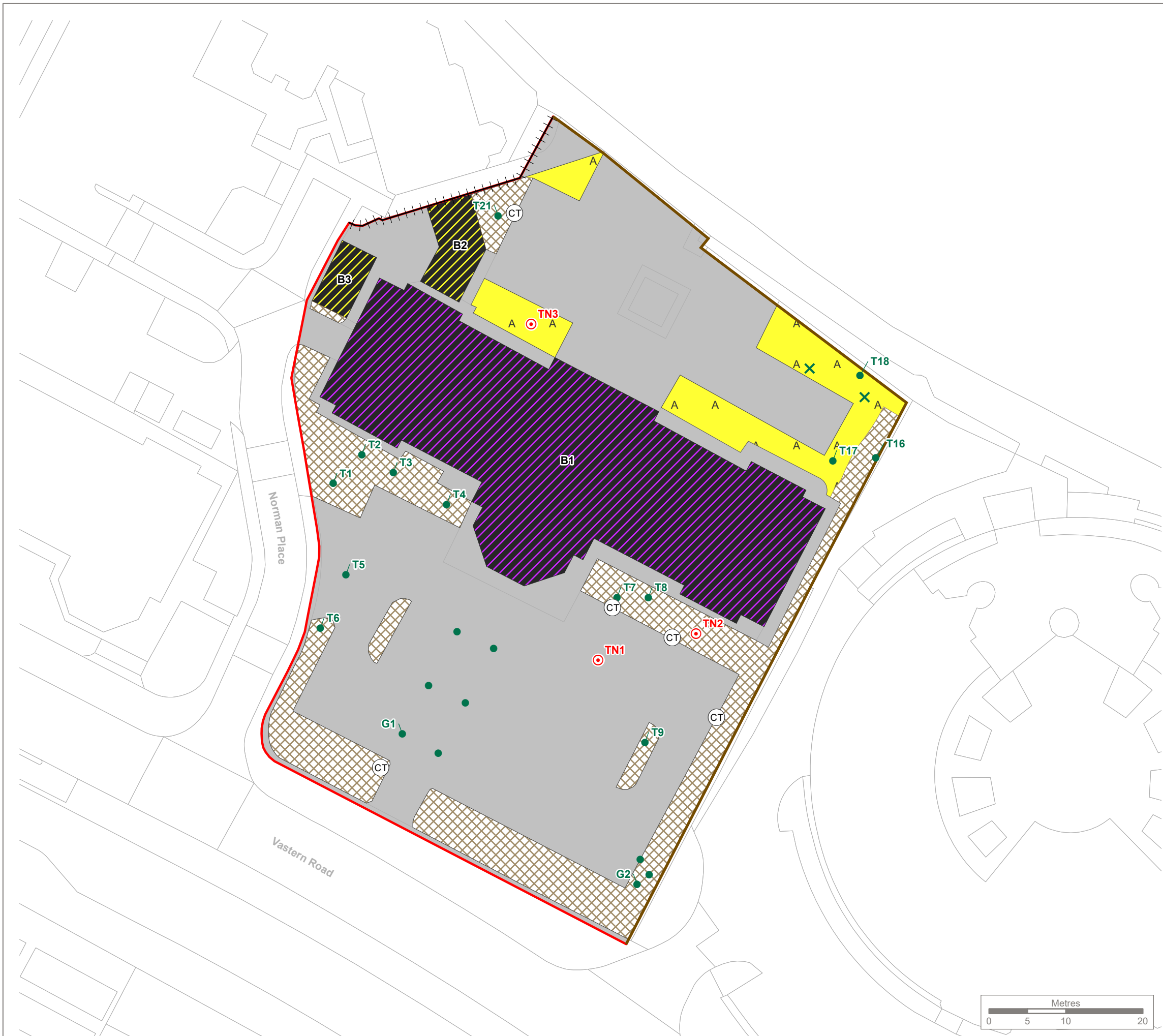
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Drawings

Drawing 1: Phase 1 habitat survey G10179.007B



KEY

- Site boundary
- Target note
- Cotoneaster
- Scattered scrub
- Scattered broad-leaved tree
- Fence
- Wall
- Amenity grassland
- Introduced shrub
- Building
- Hardstanding

Building Assessment for Bat Roost Potential

- Confirmed roost
- Low

Note:
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Site Map

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