



FORMER JOHN LEWIS DEPOT, LETCOMBE STREET, READING
(ALSO KNOWN AS JLP MILL LANE)

PRELIMINARY ECOLOGICAL APPRAISAL

AUGUST 2024

AECOM

Prepared for:

John Lewis Partnership BTR Ltd

Prepared by:

AECOM Limited
Sunley House
4 Bedford Park, Surrey
Croydon CRO 2AP
United Kingdom

T: +44 20 8639 3500
aecom.com

AECOM Limited ("AECOM") has prepared this report for the sole use of **John Lewis Partnership BTR Ltd** ("Applicant") in accordance with the terms and conditions of appointment ("the Appointment").

AECOM shall have no duty, responsibility and/or liability to any party in connection with this report howsoever arising other than that arising to the Applicant under the Appointment. Save as provided in the Appointment, no warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by AECOM.

This report should not be reproduced in whole or in part or disclosed to any third parties for any use whatsoever without the express written authority of AECOM. To the extent this report is reproduced in whole or in part or disclosed to any third parties (whether by AECOM or another party) for any use whatsoever, and whether such disclosure occurs with or without the express written authority of AECOM, AECOM does not accept that the third party is entitled to rely upon this report and does not accept any responsibility or liability to the third party. To the extent any liability does arise to a third party, such liability shall be subject to any limitations included within the Appointment, a copy of which is available on request to AECOM.

Where any conclusions and recommendations contained in this report are based upon information provided by the Applicant and/or third parties, it has been assumed that all relevant information has been provided by the Applicant and/or third parties and that such information is accurate. Any such information obtained by AECOM has not been independently verified by AECOM, unless otherwise stated in this report AECOM accepts no liability for any inaccurate conclusions, assumptions or actions taken resulting from any inaccurate information supplied to AECOM from the Applicant and/or third parties.

Table of Contents

Executive summary	6
1. Introduction	7
1.1 Background	7
1.2 The Site	7
1.3 The Proposed Development	7
1.4 Purpose of the Preliminary Ecological Appraisal	7
2. Ecological Baseline, Constraints and Recommendations	9
2.1 Designated Sites	9
2.2 Habitats	10
2.3 Bats	11
2.4 Birds	15
2.5 Terrestrial Invertebrates	17
2.6 Other Notable Species	17
2.7 Invasive Non-Native Plants	18
3. Habitat Condition Assessment	19
4. Opportunities for Enhancements	20
4.1 Biodiverse ground level planting	20
4.2 Brown roofs	20
4.3 Bird nesting boxes	21
4.4 Bat boxes	21
4.5 Insect refugia	21
5. Conclusion	22
5.1 Re-Survey of Site	22
Appendix A Phase 1 Habitat Map	23
Appendix B Relevant Legislation and Planning Policy	25
B.1 Legislation	25
B.2 Planning Policy	27
Appendix C Methodology	30
C.1 Desk Study	30
C.2 Field Survey	30
C.3 Daytime Bat Walkover (DBW)	31
C.4 Limitations and Assumptions	32
Appendix D Target Notes and Photographs	33
Appendix E DAFOR	34

Figures

Figure 1. Phase 1 habitat map	23
-------------------------------------	----

Tables

Table 1. International, Statutory and Non-Statutory Designated Sites for Nature Conservation.....	9
Table 2 – List of Habitats Surveyed in Ascending Order	10
Table 3. Summary of Bat presence/ potential presence within the Survey Area	12
Table 4. Adopted Reading Local Plan policies relating to biodiversity	28
Table 5. Emerging Reading Local Plan policies relating to biodiversity	29
Table 6. Guidelines for assessing the potential suitability of proposed development sites for bats	31
Table 7. Introduced shrub 1 (IS1).....	34
Table 8. Introduced shrub 2 (IS2).....	34
Table 9. Introduced shrub 3 (IS3).....	34
Table 10. Introduced shrub 4 (IS4).....	35
Table 11. Introduced shrub 5 (IS5)	35

Executive summary

Site Details	The Proposed Development is located in Reading town centre, Berkshire (Central Grid Reference: SU 71694 73084) at the site of the former John Lewis Depot with street trees and introduced shrub (the Site).
Proposed Development Details	The Proposed Development will comprise a Build to Rent (BtR) development of up to 215 residential units, together with flexible commercial / community space (Use Class E/F1/F2), residents' facilities, landscaping, public realm, amenity space, cycle parking and disabled car parking.
Ecological Features that may be affected by the Proposed Development	Ten trees and introduced shrub will be removed for the Proposed Development and replaced by trees, hedging and biodiverse planting. The building on Site has no potential to support roosting bats. However, three of the trees are covered by dense ivy which may be suitable for roosting bats, although the location of the trees along the busy A329 dual carriageway creates unsuitable environmental conditions due to traffic disturbance and high level lighting and as such, considered to have negligible suitability. In the wider area, building B2 located within 10m north of the red line boundary has suitability for bats due to the presence of roost features potentially suitable for multiple bats. St. Giles Church & cemetery is 100m south of the Site and the Quaker cemetery is across the road, south of the Site. Both offer habitat for roosting bats and bat flight lines and foraging. The habitats on Site are suitable for nesting birds.
Recommendations for further survey and assessment	None
Recommendations for Mitigation	The loss of trees and introduced shrub will be mitigated for by replacement trees, hedging and biodiverse planting. A toolbox talk on the ecology of bats will be given to site staff as a precautionary measure due to the very low risk of disturbing bats during the removal of three trees with dense ivy covering. If any bats are found, works must cease, and a licenced bat ecologist be contacted. Standard measures within a Construction and Environmental Management Plan (CEMP) or equivalent will address the risk of potential indirect impacts on any bats that could be present in B2, St. Giles Church & cemetery and the Quaker cemetery, in relation to lighting, dust noise and vibration. Site clearance will occur between October and February to avoid the core nesting bird season. If this cannot be avoided, a suitably qualified ecologist must carry out a nesting bird check at the site immediately prior to works commencing. Should any active nests be found, they must be retained in situ with an appropriate buffer until all the young have fledged the nest. While no invasive non-native plants were recorded during the survey, it is recommended that biosecurity protocols are implemented during the works to limit the potential spread of INNS.
Habitat Condition Assessment	Neither the buildings, hardstanding nor introduced shrub are applicable to the Biodiversity Net Gain assessment. Ten trees on site meet the criteria for small urban trees in the Habitat Condition Assessment for BNG.
Opportunities for Biodiversity Enhancements	A BNG Assessment¹ was prepared separately for the Proposed Development, and is submitted as part of this planning application. Ecological enhancements are recommended to inform the BNG and contribute to the objectives of the Reading Local Plan, biodiversity action plan and National Planning Policy Framework. Enhancements proposed are: • Diverse planting and brown roofs • Bird boxes • Bat boxes • Insect refugia

¹ AECOM (2024) Mill Lane Reading Biodiversity Net Gain Assessment

1. Introduction

1.1 Background

This Preliminary Ecological Appraisal report (PEAR) has been prepared by AECOM on behalf of The John Lewis Partnership BTR Ltd (the Applicant), to assess the ecological constraints in connection with the development of a Build to Rent (BtR) development of up to 215 residential units (hereafter referred to as the Proposed Development). The Proposed Development is located adjacent to Letcombe Street in central Reading, Berkshire (Central Grid Reference: SU 71694 73084), as shown by the red line boundary on the Phase 1 Habitat Map in Appendix A. All land situated within this red line is hereafter referred to as the Site. The description of development is the following:

“Demolition of the existing building and redevelopment of the site comprising erection of a new building for up to 215 build to rent residential dwellings (Use Class C3) together with flexible commercial / community space (Use Class E/F1/F2), residents’ facilities, landscaping, public realm, amenity space, cycle parking and disabled car parking.”

The assessment of ecological constraints has been undertaken with reference to current good practice² and forms part of the technical information commissioned by the Applicant in connection with the Proposed Development. The PEA addresses relevant wildlife legislation and planning policy as summarised in Appendix B and is consistent with the requirements of *British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development*.

This PEAR is intended for to inform and accompany a full planning application in respect of Proposed Development design, site layout and / or site investigation.

1.2 The Site

The Site is located adjacent to Letcombe Street in central Reading, Berkshire at Ordnance Survey national grid reference SU 71694 73084 and is approximately 0.44ha in size. The approximate site location is shown in Figure 1 in Appendix A.

The Site is located on the edge of the town centre in Central Reading within close proximity of key local services and facilities including The Oracle shopping centre opposite, the Premier Inn hotel adjacent to the west and Reading railway station located approximately 1km to the north. The Site itself is bound by Mill Lane and the A329 to the north, Letcombe Street to the south-west and Crossland Road to the south-east, from which the Site is accessed. The Site currently comprises the existing JLP warehouse building with associated car parking and servicing areas to the north-east and south-west of the building.

1.3 The Proposed Development

The Proposed Development will comprise a Build to Rent (BtR) development of up to 215 residential units, together with flexible commercial / community space (Use Class E/F1/F2), residents’ facilities, landscaping, public realm, amenity space, cycle parking and disabled car parking. The landscaping and public realm includes soft planting which includes species of benefit to biodiversity.

1.4 Purpose of the Preliminary Ecological Appraisal

This PEAR presents ecological information obtained during the following:

² CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

- A desk-study undertaken on 11 January 2024 to obtain records of designated sites, notable habitats³ and protected and notable species⁴ within 1km of the Site (the area covered by the desk study is hereafter referred to as the Study Area); and,
- A walkover survey of accessible land within and adjacent to the Site (the area covered by the survey is hereafter referred to as the Survey Area) on 10 January 2024.

The purpose of the PEAR is to provide a high-level ecological appraisal of the Site, specifically to:

- establish baseline conditions and determine the presence of Important Ecological Features (IEF)⁵ (or those that could be present), as far as is possible;
- to identify potential ecological constraints to the Proposed Development and make initial recommendations to avoid impacts on IEFs, where possible;
- to identify requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final Proposed Development design);
- to establish any requirements for more detailed surveys; and,
- to identify any opportunities offered by the Proposed Development to deliver biodiversity enhancements.

The methodology followed for undertaking the desk study and field surveys is detailed in Appendix C, including any limitations to the assessment.

³Notable habitats are taken as principal habitats for the conservation of biodiversity listed under Section 41 of the *Natural Environment and Rural Communities Act 2006*; habitats listed under the Westminster Open Spaces and Biodiversity Strategy Action Plan; hedgerows identified as being 'important' under the wildlife criteria of the *Hedgerow Regulations 1997*, ancient woodlands and veteran trees.

⁴Notable species are taken as principal species for the conservation of biodiversity listed under Section 41 of the *Natural Environment and Rural Communities Act 2006*; any species listed in an IUCN Red Data Book; and any other species listed under Reading Biodiversity Action Plan.

⁵ Important Ecological Features are habitats, species, ecosystems and their functions and processes that are of conservation importance and could potentially be affected by the Proposed Development.

2. Ecological Baseline, Constraints and Recommendations

The following sections detail the results of the desk and field-based studies undertaken to inform this PEAR. Where necessary, recommendations for mitigation measures to protect known IEFs, or further surveys to determine the presence or likely absence of likely IEFs, are provided.

With regard to background data, 'recent' records are considered to be those no older than 10 years from the date of the desk study. Records outside of this period are historical and have only been reported where more recent records for a feature do not exist. Exceptions to this are detailed in the appropriate sections below.

2.1 Designated Sites

2.1.1 Desk Study

There are no sites with an international designation for their biodiversity significance within 10km of the Site and no sites with a statutory designation for biodiversity within 1km of the Site.

There are 2 non-statutory-designated sites within 1km of the Site.

Table 1 summarises the designated sites situated within the Study Area.

Table 1. International, Statutory and Non-Statutory Designated Sites for Nature Conservation

Designated Site	Reason for Designation	Location of Designated Site ⁶
Internationally Designated Sites		
No international statutory designated sites		
National Statutory Designated Sites within 1km		
No national statutory designated sites		
Non-Statutory Designated Sites within 1km		
<i>Local</i>		
Holy Brook Local Wildlife Site (LWS)	The Holy Brook is a stream that carries water from and emptying back into the River Kennet, a chalk river. A number of notable invertebrates have been recorded in Holy Brook and water vole (<i>Arvicola amphibius</i>) has been recorded in the central and western sections.	470m south west
River Kennet/Kennet & Avon Canal LWS	The River Kennet contains sections of high-quality chalk river. The Kennet & Avon Canal section is also fed by water from the River Kennet and is calcareous in nature. The river is an important wildlife corridor running into Reading and provides valuable riverine habitat. It is known to support a population of water vole (2020) and a rich invertebrate assemblage.	472m south west

2.1.2 Constraints and Recommendations

There are no internationally designated sites or sites with statutory designations for wildlife within 1km of the Site.

The nearest non-statutory designated site is Holy Brook Local Wildlife Site (LWS) which is located 470m to the south-west of the Site. There is no potential for impacts from the construction on the Holy Brook LWS, such as dust, pollution or biosecurity vectors, given the distances and intervening roads and built up areas.

Potential indirect impacts will be covered by standard measures to control dust & noise pollution in a Construction Management Plan (CMP) or equivalent.

⁶Where designated sites are situated outside of the Site boundary, the distance and direction is given at the closest point of the designated site from the Site

2.2 Habitats

2.2.1 Desk Study

2.2.1.1 Ancient Woodland

There are no blocks of woodland listed as ancient woodland or on the National Forest Inventory 2014 within 500m of the Survey Area.

2.2.1.2 Habitats of Principal Importance

There is one likely Habitats of Principal Importance or HoPI, listed on Section 41 of the Natural Environment and Rural Communities Act (2006) within 500m of the Survey Area:

- Rivers and streams – Rivers.

The River Kennet is located 100m north of the Site, and runs through Reading town centre.

2.2.2 Field Survey

Summary descriptions of the habitats within the Survey Area are provided below and shown on the Phase 1 Habitat Map. Photographs are provided in Appendix D.

The Site consists of the following habitats:

2.2.2.1 Buildings

The former John Lewis warehouse with customer collection facilities is the only building on the Site. It is a large warehouse building with the majority of the space being a single storey open area. There is also a front of house collections area that makes up a small proportion of the building footprint. The building exterior has a portion of brickwork on the bottom third of the north, west and south elevations. The bottom of the east elevation is concrete. The rest of the façade is made up of metal panels, with occasional windows and ventilation panels. The roof consists of metal panels.

2.2.2.2 Hard Standing

There are two areas of hard standing on Site, one to the east and one to the west. The hard standing to the west is a customer car park whereas the hard standing to the east is a loading dock with parking bays for the operations team.

2.2.2.3 Introduced Shrub

There are five distinct areas of introduced shrub on the site.

2.2.2.4 Individual Trees

There are nine individual trees (Chanticleer pear *Pyrus calleryana* 'Chanticleer') forming a line of urban trees along the northern side of the Site. Three of these trees have dense plant growth from climbing shrubs growing around the trunks. A single sycamore (*Acer pseudoplatanus*) tree is present along the southern border of the site.

Table 2 – List of Habitats Surveyed in Ascending Order

Habitat	Brief Description	Area
Buildings	The building on Site are the former John Lewis warehouse with customer collection facilities. The exterior is covered in metal panels with a metal roof and brick and concrete on the bottom third of the building.	0.18ha
Hard Standing	A car park for public collections is to the west and a larger, private loading area and car park to the east.	0.19ha
Introduced Shrub	Areas of introduced shrub line the perimeter of the site, mainly the north and south façades. To the north the shrub is quite dense and includes a line of nine trees. The shrub here spills over onto the pedestrian footpath. The introduced shrub to the south of the Site is mainly behind boundary fencing, not spilling over as much into the pedestrian footpath. There is one young sycamore tree on this side. The vegetation is lower on this side, with areas of ruderal vegetation growing between the shrubs. There are five blocks of introduced shrub. Species are detailed in the DAFOR assessment in Appendix E. Dominant species include firethorn (<i>Pyracantha coccinea</i>), Portugal laurel (<i>Prunus lusitanica</i>), cherry laurel (<i>Prunus laurocerasus</i>) and buddleia (<i>Buddleia davidii</i>).	0.06ha
Individual Trees	There are nine trees within the northern line of introduced shrub. These trees are all roughly the same age and likely planted at the same time. There is one young sycamore tree on the southern line of introduced shrub.	N/A

2.2.3 Constraints and Recommendations

The trees and introduced shrub will be removed for the Proposed Development and will be replaced by trees, hedging and biodiverse planting. A tree survey, Arboricultural Impact Assessment (AIA) and proposed landscaping plans have been prepared and accompany the planning application submission.

The building has low value for biodiversity and will be removed and replaced by buildings with brown roofs.

Habitats of Principal Importance within the desk study area (River Kennet, 100m north) will not be impacted by the Proposed Development due to the roads and built-up areas separating the Site from the river.

Potential indirect impacts will be covered by standard measures to control dust, noise and light pollution in a CEMP or equivalent.

2.3 Bats

2.3.1 Data Search

Four European species licences have been granted for bats within 1km of the Site in the last 10 years:

- 2016-22301-EPS-MIT - 385m south east of the Site for common pipistrelle (*Pipistrellus pipistrellus*);
- 2019-44194-EPS-MIT - 365m north east south east of the Site for common pipistrelle soprano pipistrelle (*Pipistrellus pygmaeus*);
- 2017-28045-EPS-MIT - 750m north south east of the Site for Daubenton's bat (*Myotis daubentonii*);
- 2017-32379-EPS-MIT - 822m south west south east of the Site for common pipistrelle.

The TVERC (Thames Valley Environmental Records Centre) data search returned records for nine bat species within 1km of the Survey Area from over the last ten years. The closest bat records were for common pipistrelle recorded 270m to the south-west of the Site.

- 51 records of common pipistrelle bat;
- 19 records of soprano pipistrelle bat;
- 2 records of Nathusius' pipistrelle (*Pipistrellus nathusii*) bat;
- 1 records of bat in the *Pipistrellus* genus;
- 1 record of daubentons bat;
- 1 record of Long-eared (*Plecotus*) bat;
- 2 records of *Myotis* bat;
- 8 records of noctule (*Nyctalus noctula*) bat;
- 1 records of serotine (*Eptesicus serotinus*) bat.

2.3.2 Field Survey

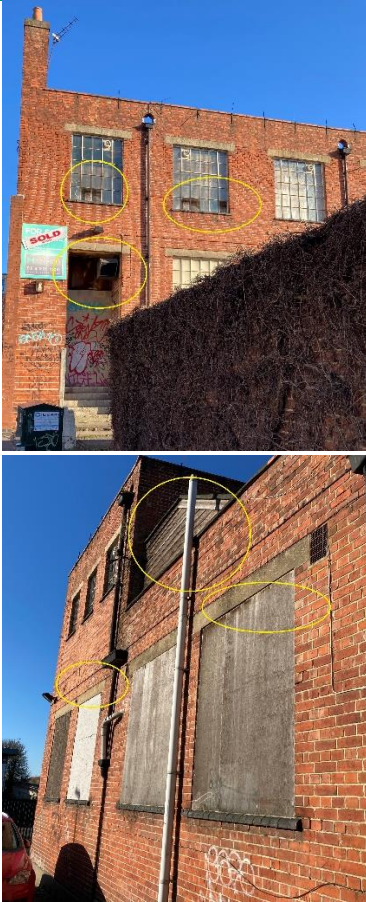
Table 3 summarises any evidence of bats being present within the Survey Area, and the potential for features and habitats within the Survey Area to support bats.

Table 3. Summary of Bat presence/ potential presence within the Survey Area

Label	Name	Description of Potential Roost Features	Level of suitability ⁷	Location	Photo
B1	Former John Lewis warehouse with customer collection facilities	The warehouse, constructed entirely of metal, lacked small suitable gaps or cracks on the exterior for crevice dwelling bats. The large doors for loading vehicles were closed and not in use, disallowing bats entry to the main room. A roof space was checked for bats and the interior was well-lit, warm and lacked entry points for bats. The building lacked roosting opportunities for summer roosting, maternity and winter hibernating bats.	Negligible	On site	   

⁷ High, moderate, low, negligible or none, according to the 2023 bat survey guidelines.

Label	Name	Description of Potential Roost Features	Level of suitability ⁷	Location	Photo
T7, T8 T9	Semi-mature pear street trees	Three trees with ivy cladding. Crevice gaps are potentially available to bats between the trunk and ivy stems. Clear flight paths are available to the trees. However, these trees are located along the A329 road and Mill Lane are subject to high level road lighting. For this reason, these trees are considered unsuitable for roosting bats.	Negligible	On site	 
B2	36-42 London Street	One to two storey brick building, known as the Central Club, with flat roofs and plant infrastructure, boarded-up windows and doors, broken windows. Several gaps and cracks available under wooden cladding and boards, and entry to building via broken windows. North, west and east sides of the building well-lit by street lighting. South side of the building facing onto small alleyway. Security light at ground level. The Central Club has a resolution to grant planning permission agreed at planning committee in July 2023.. Potentially suitable for small numbers of bats for summer roosting bats, however poor environmental	Negligible	10m north of the site	

Label	Name	Description of Potential Roost Features	Level of suitability ⁷	Location	Photo
		conditions reduce the risk to negligible.			
n/a	St Giles Church and cemetery	Grade-II listed 19 th century church building with tower and roof tiles. Several mature trees (and possibly veterans) within the cemetery Grassland scrub and trees present. Suitable to provide roosting, flight lines and foraging opportunities for bats.	Not assessed in detail – has suitability	100m south-east of the site, separated by roads	
n/a	River Kennet	The River Kennet offers flight-paths and foraging areas through the urban area.	Not assessed in detail	85m north and 330m west of the site	

2.3.3 Constraints and Recommendations

No further bat roost surveys are recommended for the buildings and trees on Site, due to the lack of potential roost features and unsuitable environmental conditions (high levels of lighting and disturbance from A329). It is recommended that precautionary measures are taken during construction to address the low risk of encountering roosting bats. Staff should receive a toolbox talk on the ecology and legislation protecting bats and the advice to stop works and contact a bat ecologist in the unexpected discovery of a bat.

As one building off site to the north and within approximately 10m of red line boundary is potentially suitable for bats, it is recommended that measures are taken during construction to prevent potential impacts on bats, via a

Construction and Environmental Management Plan (CEMP) or equivalent. These would include standard measures for controlling dust, noise, vibration, pollution and light pollution in the direction of this off-site building, considering that this building is already subject to high levels of lighting and noise pollution on its north, west and eastern sides, as it is located at a busy traffic junction. Furthermore, the Central Club has a resolution to grant planning permission agreed at planning committee in July 2023, and therefore it is expected that its development will also include suitable measures to be taken during construction to prevent potential impacts on bats.

St Giles Church and cemetery has suitability for roosting bats, bat flight lines and foraging due to its age, construction and location in a residential street, separated away from the A329. The entrance to a Quaker graveyard is located across the road from the Site along the southern boundary. The River Kennet is located 85m north of the Site at its closest point, and has suitability to provide flight-paths and foraging areas through the urban area. It is separated from the Site by the A329, but to the west the River Kennet is 330m from the Site with no major barriers. No direct impacts are predicted as a result of the Proposed Development. Any indirect impacts to this area will be controlled for using precautionary measures including low-level lighting (during construction and during the final design) on the southern boundary of the Site and standard measures in a CEMP or equivalent.

The trees and introduced shrub on Site have low suitability for bat flight lines and foraging. The vegetation on the northern boundary is subject to high levels of lighting and disturbance from A329 and the vegetation on the southern boundary along Crossland Road is relatively undisturbed from low levels of street lighting in a residential area. It is recommended that the final lighting design includes low-level lighting on the southern boundary. The planting strategy by Camlins⁸ (Planting Strategy – SY743-000-0061) submitted for planning includes planting beneficial for foraging and commuting bats: mixed native hedges, shrubs, meadow grass mixture, planting beds for herbs vegetables and flowers.

2.4 Birds

2.4.1 Desk Study

There are recent records for 23 notable⁹ bird species within the Study Area in the last 10 years.

These include eleven five listed on Annex I of the EC Birds Directive, six species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), eight Species of Principal Importance (SPI), nine species on the Birds of Conservation Concern 4 (BoCC5) Red list and two species on the BoCC5 Amber list.

Notable Bird Species listed within 1km of the Survey Area over the last 10 years

Bird Species	Legislation and Policy	Distance from the Survey Area
Black Redstart (<i>Phoenicurus ochruros</i>)	Schedule 1 of the Wildlife and Countryside Act	Closest record is located 682m to the north-west of the Site
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Birds of Conservation Concern 4 amber List	Closest record is located 1km to the south-west of the Site
Common Tern (<i>Sterna Hirundo</i>)	Listed on Annex I of the EC Birds Directive	Closest record is located 700m to the west of the Site
Dunnock (<i>Prunella modularis</i>)	Listed on Section 41 of the NERC Act	Closest record is located 300m to the south-east of the Site
Fieldfare (<i>Turdus pilaris</i>)	Schedule 1 of the Wildlife and Countryside Act	Closest record is located 700m to the west of the Site
Gadwall (<i>Mareca strepera</i>)	Birds of Conservation Concern 4 amber List	Closest record is located 700m to the west of the Site
Greenfinch (<i>Chloris chloris</i>)	Birds of Conservation Concern 4 Red List	Closest record is located 516m to the north of the Site

⁸ Camlins (2024) Mill Lane Reading General Arrangement Planting Strategy - SY743-000-0061

⁹ Notable bird species are taken as those listed: on Annex I of the EC Birds Directive (2009/147/EC); on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); as Species of Principal Importance (SPI) for the Conservation of Biodiversity in England listed in Section 41 of the Natural Environment and Rural Communities Act 2006; as Red or Amber in the Birds of Conservation Concern (BoCC) 5 (Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747); bird species or groups listed under the Westminster Open Spaces and Biodiversity Strategy Action Plan.

Bird Species	Legislation and Policy	Distance from the Survey Area
Herring Gull (<i>Larus argentatus</i>)	Listed on Section 41 of the NERC Act Birds of Conservation Concern 4 Red List	Closest record is located 700m to the west of the Site
House Martin (<i>Delichon urbicum</i>)	Birds of Conservation Concern 4 Red List	Closest record is located 700m to the west of the Site
House Sparrow (<i>Passer domesticus</i>)	Listed on Section 41 of the NERC Act	Closest record is located 300m to the south-east of the Site
Kingfisher <i>Alcedo atthis</i>	Schedule 1 of the Wildlife and Countryside Act	Closest record is located 1km to the north-east of the Site
Lapwing (<i>Vanellus Vanellus</i>)	Listed on Section 41 of the NERC Act	Closest record is located 700m to the west of the Site
Lesser Redpoll (<i>Acanthis cabaret</i>)	Listed on Section 41 of the NERC Act,	Closest record is located 700m to the west of the Site
Little Egret (<i>Egretta garzetta</i>)	Listed on Annex I of the EC Birds Directive	Closest record is located 700m to the west of the Site
Lesser Whitethroat (<i>Curruca curruca</i>)	London Protected Species	Closest record is located 700m to the west of the Site
Mistle Thrush (<i>Turdus viscivorus</i>)	Birds of Conservation Concern 4 Red List	Closest record is located 700m to the west of the Site
Peregrine (<i>Falco peregrinus</i>)	Birds Directive Annex 1, Schedule 1 of the Wildlife and Countryside Act	Closest record is located 700m to the west of the Site
Red Kite (<i>Milvus milvus</i>)	Schedule 1 of the Wildlife and Countryside Act	Closest record is located 300m to the south-east of the Site
Redwing (<i>Turdus iliacus</i>)	Schedule 1 of the Wildlife and Countryside Act	Closest record is located 300m to the south-east of the Site
Reed Bunting (<i>Emberiza schoeniclus</i>)	Listed on Section 41 of the NERC Act	Located within 1km of the Site
Song Thrush (<i>Turdus philomelos</i>)	Listed on Section 41 of the NERC Act	Closest record is located 700m to the west of the Site
Starling (<i>Sturnus vulgaris</i>)	Listed on Section 41 of the NERC Act Birds of Conservation Concern 4 Red List	Closest record is located 300m to the south-east of the Site
Swift (<i>Apus apus</i>)	Birds of Conservation Concern 4 Red List	Closest record is located 300m to the south-east of the Site

2.4.2 Field Survey

The buildings, trees and introduced shrub on site are suitable for nesting birds.

Though the site has a disused warehouse and ample introduced shrub vegetation, the Site is subject to high levels of traffic disturbance from the A329, along with road lighting. Therefore, the site is considered unsuitable for nesting black redstart, which is an urban specialist particularly in industrial areas.

The site lacks tall buildings suitable for nesting peregrine. The vegetation may support peregrine prey and may contribute to foraging territory, although better and more extensive habitat is likely available within the wider area.

The warehouse flat roof may be suitable for nesting black headed gull and herring gull, although the site is disturbed by traffic and better habitat is likely available within the wider area.

The introduced shrub and trees on site are suitable for nesting birds, and the berries and seeds from the plants in the introduced shrub would provide foraging opportunities for birds. The Site is not considered suitable to support foraging black redstart as it lacks loose brownfield substrate and is located next to a well-lit and busy road.

2.4.3 Constraints and Recommendations

Breeding birds and their nests are protected under the Wildlife and Countryside Act (1981, as amended). Schedule 1 species are afforded additional protection which makes it an offence to disturb individuals of these species when 'at or near' an active nest.

Consequently, building demolition and removal of planted areas should be scheduled to take place outside the bird nesting season (usually considered to be March to September inclusive) to reduce the risk of breeding birds being disturbed. This should be programmed into the construction schedule from an early stage in the Proposed Development's planning.

Clearance carried out in the breeding bird survey should be considered a 'plan of works oversight'. This is because the presence of a nest or nests could result in construction delays of up to 3 months. Delays due to nesting birds can largely be avoided with a pre-planned programme of vegetation clearance.

If any Site clearance is due to take place between March and September, an ecologist will be required to confirm the absence of active bird nests immediately prior to works commencing to avoid a breach of legislation. If a nest is discovered, clearance or other construction works should be stopped immediately within an exclusion zone to be determined by an ecologist (generally 5m radius, but depending upon species). The exclusion zone will be demarcated appropriately. The nest will subsequently be monitored, typically on a weekly basis, by a suitably qualified ecologist. Once it is confirmed that all fledglings have flown and ceased to return to the nest, and that no other nests are in use within the exclusion zone, the vegetation can be removed.

Construction materials and equipment, left undisturbed for long periods of time during the breeding bird season, have the potential to be used by nesting birds. Therefore, care should be taken when moving materials and equipment during the breeding season, particularly if they have been in situ for several days.

2.5 Terrestrial Invertebrates

2.5.1 Desk Study

There are two recent records of notable¹⁰ terrestrial invertebrates within the Study Area.

Notable Invertebrate Species listed within 1km of the Survey Area over the last 10 years

Species	Legislation and Policy	Distance from the Survey Area
Stag Beetle (<i>Lucanus cervus</i>)	Hab&Spp Dir Anx 2 NERC Act Section 41	320m south east of the Site
Small Heath (<i>Coenonympha pamphilus</i>)	NERC Act Section 41	920m south-west of the Site

2.5.2 Field Survey

The site lacked deadwood suitable for stag beetle and lacked grasses (bents, fescues, meadow grasses) suitable as food plants for small heath.

The Site is not considered suitable to support rare or notable invertebrates.

2.5.3 Constraints and Recommendations

There are no constraints on the Proposed Development from terrestrial invertebrates. The biodiverse landscape design for the Proposed Development will be an improvement for invertebrate species through the planting of biodiverse habitat.

2.6 Other Notable Species

2.6.1 Desk Study

The desk study returned a recent record of three notable mammal species within the Study Area.

¹⁰ Notable terrestrial invertebrates are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any invertebrate listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); any invertebrate listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); any invertebrate listed in the IUCN Invertebrate Red Data Book (1991); and any invertebrate listed under the Westminster BAP.

The West European hedgehog (*Erinaceus europaeus*) is listed in the Natural Environment and Rural Communities (NERC) Act 2006, Section 41 and is a UK Biodiversity Action Plan (BAP) Priority Species. The West European hedgehog was recorded 600m south-east of the Site in 2020.

The Eurasian Badger (*Meles meles*) is protected under the Protection of Badgers Act 1992. There are fifteen records within 1km of the Site.

Eurasian Otter (*Lutra lutra*) is listed in the Natural Environment and Rural Communities (NERC) Act 2006, Section 41. The Eurasian otter was recorded 370m north-east of the Site in 2018.

2.6.2 Field Survey

There were no features found on the Site that were considered suitable to support other notable species. Due to a lack of suitable habitat, and lack of habitat connectivity with busy surrounding roads, such species are considered likely to be absent.

2.6.3 Constraints and Recommendations

There are no constraints on the Proposed Development from potential or known other notable species, and it is not recommended to improve the Site in respect of these species.

2.7 Invasive Non-Native Plants

2.7.1 Desk Study

Three invasive non-native plant species; Japanese knotweed (*Reynoutria japonica*), Nuttall's Waterweed (*Elodea nuttallii*) and Himalayan balsam (*Impatiens glandulifera*), listed on either Schedule 9 of the Wildlife and Countryside Act (WCA) or the Invasive Alien Species (Enforcement and Permitting) Order 2019 were recorded within 1 km of the Site over the last 10 years.

2.7.2 Field Survey

No invasive non-native plants were found on the Site. Bearberry cotoneaster was found on site, but this is not listed on any legal schedule.

2.7.3 Constraints and Recommendations

While no invasive non-native plants were found on the Site, it is recommended that biosecurity protocols are implemented during the works to limit the potential spread of these species, such as:

- maintaining control over access and security to prevent fly-tipping as this is a common pathway for invasive non-native species.
- ensuring that any plant or other machinery and vehicles have been thoroughly cleared down prior to being brought onto site, particularly tyres, excavator tracks, buckets and drilling/soil boring devices.
- ensuring that vegetation used for soft landscaping is of local provenance to prevent plant diseases and parasites and checking for any additional plants 'hitch hiking' on the plants.
- ensuring clear and regular communication with stakeholders including members of the development team e.g. site contractors to inform them of the above biosecurity measures, such as a standard e-mail, posters and signage.

3. Habitat Condition Assessment

A high-level¹¹ biodiversity net gain assessment (based on the current Proposed Development details) would normally involve making a comparison between the biodiversity value of habitats present within the Site prior to development (i.e. the 'baseline') and the predicted biodiversity value of habitats following the completion of the Proposed Development (i.e. 'post development').

However, as the Site comprises developed land with sealed surfaces and introduced shrub, these are exempt from a habitat condition assessment.

The site contains 10 urban trees. All have a diameter at breast height of greater than 7cm and less than or equal to 30cm and therefore are considered in the small size class.

A separate Biodiversity Net Gain Report has been prepared for the Proposed Development¹².

¹¹High level refers to the fact that Proposed Development proposals including landscaping and any required ecological mitigation are not finalised at this stage of the assessment.

¹² AECOM (2024) Mill Lane Reading Biodiversity Net Gain Assessment

4. Opportunities for Enhancements

There are opportunities to deliver biodiverse habitat on site, to deliver biodiversity net gain in the Proposed Development, improve ecological connectivity to local green spaces and to meet the objectives of Reading local planning policy and the national objectives of the NPPF.

The overall landscape plan by Camlins¹³ submitted for planning includes for planting along the Mill Lane A329 road frontage, a wellness garden, a communal garden with play space and brown roofs. The planting strategy¹⁴ will include mixed native hedges, shrubs, meadow grass mixture, planting beds for herbs vegetables and flowers. The amount of soft landscaping will increase and the new planting will enhance the Site for biodiversity.

These are high level opportunities and the following enhancements will be delivered, with details developed at the next design stage:

- Biodiverse ground level planting
- Brown roofs
- Bird nesting boxes
- Bat boxes
- Insect refugia

4.1 Biodiverse ground level planting

The Mill Lane road frontage will be planted with hedging and trees which will provide linear opportunities for biodiversity, including bats and birds.

This will replace the trees and introduced shrub removed for the Proposed Development. They will be replaced with native tree and hedge planting or plants of benefit to biodiversity. Design will include native species as much as possible, but balancing with the need for climate change resilient planting.

47 new trees will be planted at the Proposed Development, with either native species or varieties of native species that are more resilient to climate change, shown in the tree planting plan (SY743-000-0051) by Camlins¹⁵ submitted for planning.

The Wellness garden will include a growing area for the residents, which will in turn benefit pollinators essential for food growing, such as butterflies, bees and moths.

Invasive species listed on, Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), and the Invasive Alien Species (Enforcement and Permitting) Order will be avoided.

4.2 Brown roofs

Brown roofs are proposed within the landscape plans produced for the Proposed Development. Brown roofs are a type of biodiverse extensive roof created to mimic brownfield land. It is recommended that brown roofs will have an undulating substrate depths to create differing habitats for a greater range of invertebrate species. Substrate depths should vary typically to achieve an average of 115mm (undulating 80-150mm). Pebbles, boulders, gravels, sands, dew ponds, bare substrate, branches and logs may also be placed within the system to offer suitable habitats for a diversity of invertebrates.

The presence of solar panels will provide further diversity of habitats and microclimate for insects and birds.

Brown roofs are left for natural colonisation of plants via wind or birds. However, colonisation can be assisted by a level of seeding in low densities in certain areas. In that case, appropriate native UK seed mixes should be used (i.e. [Wild Flower Seeds and Seed Mixtures - Emorsgate Seeds \(wildseed.co.uk\)](#)).

¹³ Camlins (2024) Mill Lane Reading General Arrangement Overall Landscape Plan SY743-000-0002

¹⁴ Camlins (2024) Mill Lane Reading General Arrangement Planting Strategy SY743-000-0061

¹⁵ Camlins (2024) Mill Lane Reading General Arrangement Tree Planting Plan SY743-000-0051

The brown roof should follow the Green Roof Organisation (GRO) Green Roof code¹⁶. Brown roofs have benefits for biodiversity, water runoff and cooling of buildings.

4.3 Bird nesting boxes

Notable bird species local to the area are targeted, such as starling swift and house martin and suitable bird boxes are recommended:

- Six swift/house martin boxes
- Six starling boxes

4.4 Bat boxes

Bat species habituated to urban areas are targeted, including common pipistrelle and soprano pipistrelle.

Four integrated bat boxes are recommended, such as, the Schwegler 1FR bat tube¹⁷ or the Vivara Pro Woodstone bat tube¹⁸.

4.5 Insect refugia

Bees and other invertebrate species are targeted to encourage pollination of flowers and to attract birds and bats.

12 bee boxes, bee cubes and/or insect hotels are recommended within the Proposed Development within the green areas. These can be hung on trees or erected on posts within the soft landscaping, or on walls around the soft landscaping.

¹⁶ Green Roof Organisation (2021). The GRO Green Roof Code. Amended June 2023

¹⁷ [Schwegler 1FR Bat Tube \(wildcare.co.uk\)](https://www.wildcare.co.uk/schwegler-1fr-bat-tube)

¹⁸ [Integrated Bat Boxes | NHBS Practical Conservation Equipment](https://www.nhbs.com/practical-conservation-equipment/integrated-bat-boxes)

5. Conclusion

This PEAR is based on a desk study and ecological surveys undertaken on 10 January 2024, to assess the ecological constraints to the Proposed Development and to provide advice in respect of design, site layout and / or site investigation.

Feature	Recommendation	Timing
Habitats	Replacement tree and hedge planting within the landscape design.	Develop in the detailed design stage and implement during construction.
Bats. (Trees with ivy cover, warehouse building). To reduce the very low risk of disturbing roosting bats, which are legally protected, the following measures will be applied.	Toolbox talk to cover the residual risk to bats, and the unexpected discovery of a bat. B2 to the north of the Site, St Giles Church & graveyard and the Quaker cemetery to the south of the Site, should be protected by indirect impacts from lighting, dust noise as a result of the Proposed Development. Standard measures to be included in a CEMP or equivalent. Consideration of BCT lighting guidance when designing the operational lighting of the Proposed Development. Creation of green areas and planting of trees to improve connectivity and foraging and commuting habitats. Installation of four bat boxes integrated to the buildings (enhancement).	Prior to tree and building removal. In advance of the works on Site. Develop in the detailed design stage. Develop in the detailed design stage and implement during construction. Develop in the detailed design stage and implement during construction.
Nesting birds. Parts of the buildings, and ivy and trees on Site are suitable to support nesting birds. To reduce the risk of disturbing nesting birds, which are legally protected, the following measures will be applied.	Site clearance / demolition works will be scheduled to avoid nesting bird season (clearance and demolition works to occur between October and February). If this is not possible, then these works will be preceded by a nesting bird check by an ecologist to confirm the absence of nesting birds. Creation of green areas and planting of trees to improve connectivity and nesting, foraging and commuting habitats. Installation of 12 nesting boxes for house sparrows and swift, house martin and starling (enhancement).	Demolition / Site clearance works to take place outside nesting bird season (usually considered to be March to September) if possible. Develop in the detailed design stage and implement during construction. Develop in the detailed design stage and implement during or post-construction.
Invertebrates	Installation of 12 bee boxes or insect hotels to encourage invertebrates on Site (enhancement).	Develop in the detailed design stage and implement during construction.

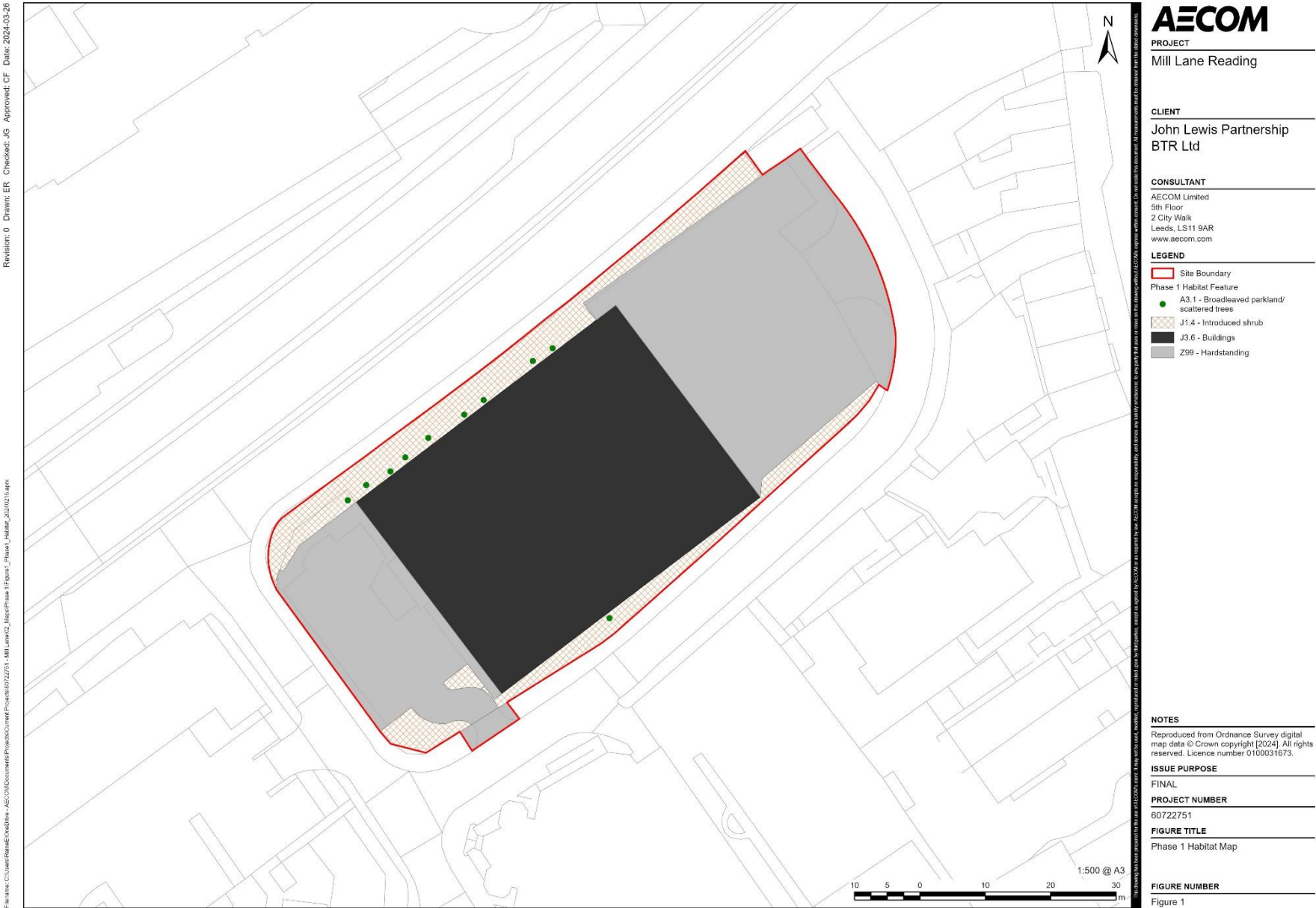
5.1 Re-Survey of Site

Due to the mobility of animals (in particular bats) and the potential for conditions on Site to change, it is recommended that an ecologist be consulted to see if an update assessment is required, should redevelopment of this Site not occur within 18 months of the date of the field survey. This in accordance with guidelines from CIEEM¹⁹.

¹⁹ CIEEM (2019). Advice note on the lifespan of ecological reports and surveys

Appendix A Phase 1 Habitat Map

Figure 1. Phase 1 habitat map



Appendix B Relevant Legislation and Planning Policy

B.1 Legislation

The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.

The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the *Conservation of Habitats and Species Regulations 2017* (referred to as the 2017 Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

Special Protection Areas (SPA) / Special Areas of Conservation (SAC)

These sites in the UK no longer form part of the EU's Natura 2000 ecological network. The *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* (referred to as the 2019 Regulations) have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

- existing SACs and SPAs
- new SACs and SPAs designated under these Regulations

Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.

Formal Appropriate Assessment is required to be undertaken by the competent authority before undertaking, or giving consent, permission or other authorisation for any work which are likely to have a significant effect on such a site.

Wetland of International Importance (Ramsar site)

Designated under the *Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971* (the Ramsar Convention), in the UK, these sites are treated as having the same level of protection as SPA's and SAC's.

Sites of Special Scientific Interest

Under the *Wildlife and Countryside Act 1981* (as amended), it is an offence to carry out or permit to be carried out any operations likely to damage the Site of Special Scientific Interest (SSSI). These operations are listed in the SSSI notification.

Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 of the *Wildlife and Countryside Act 1981* (as amended), before undertaking operations likely to damage a SSSI.

National Nature Reserve

National Nature Reserves (NNR) are established under the National Parks and Access to the Countryside Act 1949. Most NNRs are also underpinned by SSSIs and are therefore protected by the measures detailed above. For NNRs not underpinned by SSSIs it is still an offence to carry out or permit to be carried out any potentially damaging operation.

NNRs are given protection through policies in a local development plan.

Local Nature Reserve

A Local Nature Reserve (LNR) is a statutory designation made under National Parks and Access to the Countryside Act 1949, by principal local authorities (district, borough or unitary councils).

The local authority must control the LNR land – either through ownership, a lease or an agreement with the owner.

LNRs are given protection through policies in a local development plan.

Locally Designated Sites

These are non-statutory designated sites within 1km of the Proposed Development.

Bats /Terrestrial Invertebrates

These species, known as European Protected Species, are protected under Regulation 43 of the 2017 Regulations as amended by the 2019 Regulations. This makes it an offence to deliberately capture, injure or kill an animal; deliberately disturb an animal; or damage or destroy a breeding site or resting place used by an animal.

Deliberate capture or killing is taken to include “accepting the possibility” of such capture or killing. Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural England can be obtained to facilitate the works that would otherwise be illegal.

These species are also protected under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.

Lower levels of disturbance not covered by the *Conservation of Habitats and Species Regulations 2017* remain an offence under the *Wildlife and Countryside Act 1981* although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Nesting Birds

All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended), with some species afforded greater protection under Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended). In addition to the protection from killing or taking that all birds receive, Schedule 1 birds and their young must not be disturbed at the nest.

There are no licensing purposes that explicitly cover development activities affecting wild birds.

Species and Habitats of Principal Importance for the Conservation of Biodiversity

Section 40 of the Natural Environment & Rural Communities Act (NERC) 2006 sets out the duty for public authorities to conserve biodiversity in England.

Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretary of State for England, in consultation with Natural England, are referred to in Section 41 of the NERC Act for England. The list, known as the ‘England Biodiversity List’, of habitats and species can be found on the Natural England web site.

The ‘England Biodiversity List’ is used as a guide for decision makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 to have regard to the conservation of biodiversity in England when carrying out their normal functions.

Non-native Invasive Plant Species

Under the *Wildlife and Countryside Act 1981* (as amended), it is an offence to plant or otherwise cause these species to grow in the wild.

Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the *Environmental Protection Act 1990*²⁰.

²⁰ Environment Agency (2016) Treatment and disposal of invasive non-native plants: Regulatory Position Statement 178

Species listed on *The Invasive Alien Species (Enforcement and Permitting) Order 2019*²¹ should be considered.

Biodiversity Net Gain

Biodiversity net gain is a way of creating and improving biodiversity by requiring development to have a positive impact ('net gain') on biodiversity.

Biodiversity Net Gain will be required for most types of new planning applications as stated in *The Environment Act 2021* and *The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024*.

B.2 Planning Policy

National Planning Policy Framework, 2023

The NPPF was first published in March 2012 and has been updated in July 2018, February 2019, July 2021 and most recently in December 2023.²²

The NPPF states the commitment of the UK Government to minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity. It specifies the obligations that the Local Authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation and how this is to be delivered in the planning system. Protected or notable habitats and species can be a material consideration in planning decisions and may therefore make some sites unsuitable for particular types of development, or if development is permitted, mitigation measures may be required to avoid or minimise impacts on certain habitats and species, or where impact is unavoidable, compensation may be required.

Chapter 15 of the NPPF 'Conserving and enhancing the natural environment' sets out the requirements to consider biodiversity in planning decisions. A summary of the paragraphs of the NPPF relevant to terrestrial ecology and nature conservation, and to the IERRT project, is provided below.

Paragraph 180 states that "*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

- a) 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);*
- b) 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;*
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- e) 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*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate".*

Paragraph 181 states that "Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries."

Paragraph 185 states that "To protect and enhance biodiversity and geodiversity, plans should:

²¹ HMSO (2019) *The Invasive Alien Species (Enforcement and Permitting) Order 2019*

²² <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity”.

Paragraph 186 states that “When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity 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;

b) 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;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.”

Local Planning Policy

A summary of the relevant local planning policy is provided below. For the precise wording of each specific policy please refer back to the source document. This planning policy has been considered when addressing potential ecological constraints and opportunities identified by the desk study and field surveys and when addressing requirements for further survey, design option and ecological mitigation.

The Reading Local Plan is under consultation for a partial update and there are two relevant documents:

- Adopted Local Plan – Reading Local Plan (adopted 2019)
- Emerging Local Plan – Partial Update under consultation between November 2023 and January 2024

Table 4. Adopted Reading Local Plan policies relating to biodiversity

Document	Planning Policy	Purpose
Reading Borough Local Plan 2019	EN7: Local green space and public open space	Protect a number of green spaces from development or negative impact from development.
	EN11: Waterspaces	Reading’s waterspaces will be protected and enhanced, so that they can continue to contribute to local and regional biodiversity and ecology, flood mitigation, local character, heritage and visual amenity, the provision of accessible leisure and recreational opportunities and, where appropriate, navigation. There will be no adverse impact on the functions and setting of any watercourse and its associated corridor.
	EN12: Biodiversity and the green network	The identified Green Network shall be maintained, protected, consolidated, extended and enhanced. The Green Network comprises: • Sites with identified biodiversity interest - Local Wildlife Sites, Local Nature Reserves, Biodiversity Opportunity Areas, protected and priority species and their habitats, Priority and Biodiversity Action Plan habitats, and the River Thames and all its tributaries (including the River Kennet and the Kennet & Avon Canal); and • Areas with potential for biodiversity value and which stitch the Green Network together – designated Local Green Space and open green spaces, and existing and potential Green Links.

	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.
EN14: Trees, hedges and woodlands	Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal where they are of importance, and Reading's vegetation cover will be extended. The quality of waterside vegetation will be maintained or enhanced. New development shall make provision for tree retention and planting within the application site, particularly on the street frontage, or off-site in appropriate situations, to improve the level of tree coverage within the Borough, to maintain and enhance the character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change. Measures must be in place to ensure that these trees are adequately maintained.
EN15: Air Quality	Development should have regard to the need to improve air quality and reduce the effects of poor air quality.
EN16: Pollution and water resources	Development will only be permitted where it would not be damaging to the environment and sensitive receptors through land, noise or light pollution; where it would result in no deterioration in, or ideally enhance, ground and surface water quality; and where adequate water resources, sewerage and wastewater treatment infrastructure will be in place to support the proposed development prior to occupation.

Table 5. Emerging Reading Local Plan policies relating to biodiversity

Document	Planning Policy	Purpose
Reading Borough Local Plan Partial Update November 2023	EN12 Biodiversity and the green network	Biodiversity net gain will be provided by the mandatory 10% as set out in the Environment Act 2021. Preference to be delivered on-site. Local Nature Recovery Strategies will align with existing Biodiversity Opportunity Areas. Loss of irreplaceable habitat should not be justified. Biodiversity and Natural Environment Supplementary Planning Document will be produced and will: • That reference be added to protecting important soils; • That reference be added to avoiding light spillage over rivers; • That new landscaping next to rivers should be native and wildlife friendly; and • That re-naturalisation of the riverbanks should be required for relevant applications.
	EN14 Trees, hedges and woodlands	Tree canopy cover be increased to 25% by 2030 and that no ward should have a canopy cover below 12%. Tree lined streets should be created as in the NPPF. Large canopy species should be prioritised. Tree strategy should be aligned with biodiversity net gain.

Local Biodiversity Action Plans

Reading Biodiversity Action Plan (BAP), produced in March 2021, is an overall framework for conserving biodiversity, which means the variety of life and its processes, within Reading. It aims to ensure that by 2030 Reading will be richer in wildlife, be better connected to the wider landscape and that biodiversity loss will have been reversed. It also places biodiversity at the heart of the Council's activities.

Appendix C Methodology

C.1 Desk Study

The preliminary ecological assessment includes a desk study to obtain background records relevant to a Site and the Proposed Development. The data obtained provides contextual information for the scope of field surveys, to aid the evaluation of field survey results, and to provide supplementary information where complete field survey coverage is not possible.

The Study Area is dependent upon the nature, timing and scale of the Proposed Development, as well as the location of the Site and the surrounding landscape. These variables all contribute to what is referred to as the Zone of Influence (Zoi) of the Proposed Development, which is the area over which ecological features may be affected by biophysical changes because of the works and associated activities.

In January 2024 the Thames Valley Environmental Records Centre (TVERC) was contacted to obtain the following ecological data:

- Records of non-statutory designated sites within 1km of the Site boundary;
- Records of legally protected and notable species (fauna and flora) within 1km of the Site boundary, including Species of Principal Importance for the Conservation of Biodiversity listed under Section 41 of the Natural Environment & Rural Communities Act 2006 in the England Biodiversity List²³

The Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk) was reviewed for the following information:

Designated sites of nature conservation importance (statutory sites only) within 1km of the Site. This was extended to 10km for internationally designated sites: Special Protection Areas (SPAs), Wetlands of International Importance (Ramsar sites) and Special Areas of Conservation (SACs); and,

Notable habitats within 1 km of the Site, these being areas of ancient woodland and 'Habitats of Principal Importance for the Conservation of Biodiversity' included in the England Biodiversity List²³.

C.2 Field Survey

The preliminary ecological assessment includes a walkover survey of the Survey Area on 10 January 2024 (all land within the Site and 30m to adjacent areas), broadly following the Phase 1 habitat survey methodology as set out in Joint Nature Conservation Committee guidance (JNCC, 2010)²⁴. This survey method records information on habitat types and is 'extended' to record any evidence of and potential for protected or notable species to be present. Plant names recorded during the survey follow Stace (2019)²⁵.

During the walkover survey, the following protected or notable species are considered:

- **Bats:** the survey involves searching for potential roosting sites for bats within trees and structures (such as buildings) and categorising the potential of those trees or structures to support roosting bats (negligible to high, or confirmed roost), in accordance with Bat Conservation Trust (BCT) guidance (2023)²⁶;
- **Birds:** the survey involves assessing the potential of habitats within the Survey Area to support breeding, wintering or migrating birds, either individually notable species or assemblages of both common and rarer species;
- **Notable species of invertebrate:** the survey involves assessing the potential of habitats within the Survey Area to support notable species of terrestrial invertebrates;
- **Other notable species:** the survey involves assessing the potential of habitat within the Survey Area to support other Notable Species, such as hedgehog;

²³ Section 40 of the Natural Environment & Rural Communities (NERC) Act 2006 requires that the Secretary of State has drawn up, in accordance with Section 41 of the Act and in consultation with Natural England, a list of habitats and species of principal importance for the conservation of biodiversity in England that is known as the [England Biodiversity List](#)

²⁴ Joint Nature Conservation Committee (2010) *Handbook for Phase 1 habitat survey - a technique for environmental audit*.

²⁵ Stace, C E (2019) *New Flora of the British Isles*, 4th edition. Cambridge University Press.

²⁶ Collins, J.(ed) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition). The Bat Conservation Trust. London.

- **Non-native invasive plant species:** the survey involves recording evidence of the presence of invasive plants listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), the Invasive Alien Species (Enforcement and Permitting) Order 2023 (as amended) and subject to strict legal control.

The DAFOR scale is used for semi-quantitative sampling, to provide a quick estimate of the relative abundance of species (generally plants) in a given area. Abundance (number of individuals) and cover (area coverage) are often used interchangeably in this type of surveying, although in fact they may have very different meanings.

To obtain useful abundance data the areas being surveyed are divided into sections (usually squares) of equal size. The entire area is surveyed for species, and categories assigned according to percentage cover.

The DAFOR scale comprises following categories:

- **D** - Dominant 50-100%
- **A** - Abundant 30-50%
- **F** - Frequent 15-30%
- **O** - Occasional 5-15%
- **R** - Rare < 5%

C.3 Daytime Bat Walkover (DBW)

On the basis of the external assessment, the overall suitability of the development site for bats was classified according to the scale outlined in the table below.

Table 6. Guidelines for assessing the potential suitability of proposed development sites for bats

Potential Suitability	Roosting habitat	Flight-paths and foraging habitats
None	No habitat features on site or complete absence of crevices	No habitat on site likely to be used at any time of the year
Negligible	No obvious habitat features on site, however a small element of uncertainty remains	No obvious habitat on site, however a small element of uncertainty remains
Low	A structure with one or more potential roost features that could be used by individual bats opportunistically at any time of the year. Unsuitable for large numbers of bats.	Habitat that could be used by small numbers of bats as flight-paths such as gappy hedgerow or unvegetated stream, not very well connected. Suitable but isolated habitat that could be used by small numbers of foraging bat such as a lone tree or a patch of scrub.
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).	Continuous habitat connected to the wider landscape that could be used by bats for flight paths such as lines of trees and scrub or inked back gardens. Habitat that is connected to wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
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 the size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts.	Continuous, high quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight paths such as river valleys streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well-connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Source: Adapted from Table 4.1 within the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023)

C.4 Limitations and Assumptions

The survey was completed in January, which is outside the normal growing season, however, given the habitats present on Site, this is not considered to represent a significant limitation to the findings of the survey.

The ecological surveys represent only a 'snapshot' in time of the ecological condition of the Site. The ecological character of the Site could change substantially throughout both the course of a year, and from year to year, impacting on the extent and quality of habitats and those habitat's potential to support protected species.

All design and habitat distances and areas given are approximate.

None of these limitations either singly or in combination is significant enough to affect the baseline, impact assessment and resulting mitigation or enhancement referenced in this report.

Appendix D Target Notes and Photographs

Target Note	Description	Photograph(s)
	Hardstanding and introduced shrub on site (looking south)	
	Trees and introduced shrub on site (northern boundary with A329 dual carriageway)	

Appendix E DAFOR

Table 7. Introduced shrub 1 (IS1)

Common name	Scientific name	DAFOR
Sycamore	<i>Acer pseudoplatanus</i>	R
Perennial ryegrass	<i>Lolium perenne</i>	A
Dog's mercury	<i>Mercurialis perennis</i>	A
Dog rose	<i>Rosa canina</i>	R
Bearberry cotoneaster	<i>Cotoneaster dammeri</i>	O
Firethorn	<i>Pyracantha coccinea</i>	O

Table 8. Introduced shrub 2 (IS2)

Common name	Scientific name	DAFOR
Dandelion	<i>Taraxacum species</i>	O
Canadian fleabane	<i>Conyza canadensis</i>	F
Garden strawberry	<i>Fragaria ananassa</i>	O
Hemp-agrimony	<i>Eupatorium cannabinum</i>	F
Ivy	<i>Hedera helix</i>	F
Creeping thistle	<i>Cirsium arvense</i>	F
Firethorn	<i>Pyracantha coccinea</i>	D
Butterfly-bush	<i>Buddleia davidii</i>	A
Bearberry cotoneaster	<i>Cotoneaster dammeri</i>	A

Table 9. Introduced shrub 3 (IS3)

Common name	Scientific name	DAFOR
Cherry laurel	<i>Prunus laurocerasus</i>	D
Teasel	<i>Dipsacus fullonum</i>	R
Yew	<i>Taxus baccata</i>	R
Elder	<i>Sambucus nigra</i>	O
Dog's mercury	<i>Mercurialis perennis</i>	O
Bramble	<i>Rubus fruticosus</i>	F
Ivy	<i>Hedera helix</i>	F
Portugal Laurel	<i>Prunus lusitanica</i>	D
Hedge barberry	<i>Beberis x stenophylla</i>	F
Bearberry cotoneaster	<i>Cotoneaster dammeri</i>	A
Butterfly-bush	<i>Buddleia davidii</i>	F
Broad-leaved Elaeagnus	<i>Elaeagnus macrophylla</i>	O
Cleavers	<i>Galium verrucosum</i>	O
Hoary plantain	<i>Plantago media</i>	O

Table 10. Introduced shrub 4 (IS4)

Common name	Scientific name	DAFOR
Mullein	<i>Verbascum thapsus</i>	O
Pear	<i>Pyrus species</i>	F
Canadian fleabane	<i>Conyza canadensis</i>	O
Honeysuckle	<i>Lonicera periclymenum</i>	O
Elder	<i>Sambucus nigra</i>	O
Dog's mercury	<i>Mercurialis perennis</i>	O
Bramble	<i>Rubus fruticosus</i>	F
Ivy	<i>Hedera helix</i>	F
Green alkanet	<i>Pentaglottis sempervirens</i>	R
Firethorn	<i>Pyracantha coccinea</i>	O
Butterfly-bush	<i>Buddleia davidii</i>	A
Cleavers	<i>Galium verrucosum</i>	O

Table 11. Introduced shrub 5 (IS5)

Common name	Scientific name	DAFOR
Firethorn	<i>Pyracantha coccinea</i>	D
Climbing euonymus	<i>Euonymus fortunei</i>	A
Brachyglottis Sunshine	<i>Senecio greyii</i>	A
Canadian fleabane	<i>Conyza canadensis</i>	O
Holly	<i>Ilex aquifolium</i>	R
Elder	<i>Sambucus nigra</i>	O
Dog's mercury	<i>Mercurialis perennis</i>	O
Bramble	<i>Rubus fruticosus</i>	F
Ivy	<i>Hedera helix</i>	F
Butterfly-bush	<i>Buddleia davidii</i>	O
Cleavers	<i>Galium verrucosum</i>	O

