SULLY TO COSMESTON ACTIVE TRAVEL ROUTE

Ground Level Roost Assessment

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Sully to Cosmeston SULLY TO COSMESTON ACTIVE TRAVEL ROUTE

Ground Level Roost **Assessment**

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Summary

Arcadis Consulting (UK) Ltd have been commissioned by Vale of Glamorgan Council to undertake a Ground Level Roost Assessment (GLRA) for bats to inform the design of the proposed active travel route between Sully and Cosmeston.

An extended Phase 1 habitat survey and desk study were undertaken by Arcadis Consulting (UK) Ltd in 2023. The Phase 1 habitat survey identified the woodland, scrub and hedgerows within the proposed development as suitable to support foraging, commuting and roosting bat species.

The proposals will lead to some vegetation clearance and therefore has potential to negatively impact bats if identified as a constraint to the project.

A GLRA was therefore undertaken on 25 May 2023 to assess trees and structures that were most likely to be impacted by the ATR proposals between Sully and Cosmeston.

A total of 16 trees and three structures were surveyed. The GLRA identified 13 trees and one structure as having negligible suitability and three trees and two structures as having low suitability for roosting bats.

There were no moderate or high potential roost features (PRFs) recorded during the survey. There were no confirmed bat roosts recorded during the survey.

Trees 9 and 13 should undergo a climb and inspection survey by a qualified ecologist with the use of an endoscope to check all PRFs for bats.

If the extent of works to St Mary's Well Bay Road bridge and Fort Road bridge alters then these structures should also be subject to climb and inspection survey.

Further surveys may also be dependent on the results of the arboricultural survey report and recommendations: this report should be revisited when this becomes available.

Mitigation will be confirmed once recommended surveys are completed, but likely to include retaining trees and habitat, maintaining habitat connectivity, toolbox talk and ecological supervision, soft/ section felling, no avoiding night working, avoid additional artificial lighting, felling/ pruning to take place outside of maternity and hibernation season (September/ October).

Enhancement measures for the site could include planting native and wildlife attractive plant species, incorporate green corridors, connecting areas of open canopy and the installation of bat boxes on suitable neighbouring trees.

1 Introduction and Aims

1.1 Background

This report presents the results of a preliminary Ground Level Roost Assessment (GLRA) along a proposed active travel route (ATR) between Sully and Cosmeston, undertaken by Arcadis Consulting (UK) Limited on behalf of the Vale of Glamorgan Council.

The aim of the survey was to establish the presence/likely absence of bat roosts within the site boundary to identify potential ecological constraints to the proposed development and provide recommendations for appropriate mitigation.

1.2 Site Location

The site is located between Penarth and Barry with a central grid reference of ST 17533 68504. The site links Sully to Cosmeston Lakes via a disused railway and existing footpath along the B4267 road. The site boundary is shown below in Figure 1.

© Google Image

Figure 1 *Overview of proposed active travel route between Sully and Cosmeston.*

1.3 Proposals

The proposals for the site are for a new ATR between Sully and Cosmeston. An ATR is a path that will be used for walking and cycling (including the use of mobility scooters) for everyday journeys. The western section of the site includes two potential options. One of the options follows the footpath on the northern side of the minor road the B4267. The second option follows a disused railway line to the north of the B4267. The central section

of the site is along a footpath and old disused railway line off road. The eastern section is located predominately along a bare ground track through tall ruderal and grassland habitat. This section connects with the hardstanding of the residential street, Cosmeston Drive. The existing footpath and disused railway are likely to need widening and the proposals will lead to some vegetation clearance, but the extent of vegetation clearance is currently unknown. There may be a requirement to incorporate lighting along the travel route.

1.4 Legislation and Conservation Status

All UK bat species are European Protected Species (EPS). It is an offence under the Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 1) (the Habitats Regulations) and Wildlife and Countryside Act (WCA) 1981 (as amended) (Ref 2) to recklessly, intentionally, or deliberately:

- Take, kill or injure EPS;
- Damage, destroy or obstruct access to any structure or place which EPS use for shelter or protection; and/ or
- Disturb EPS

The Habitats Regulations further define disturbance as acts which are likely to:

- Impair the ability to survive, breed, reproduce, rear/nurture their young, hibernate or migrate; or
- Significantly affect the local distribution or abundance of the species.

National and local policies are in place to ensure developments have regard to protected sites and species that are notable or locally important in the area. Planning Policy Wales 2021 (Ref 3), supplemented by Technical Advice Note 5 (Ref 4), states that planning authorities must seek to maintain and enhance biodiversity providing a net benefit.

New development proposals will be required to conserve and where appropriate enhance biodiversity interests unless it can be demonstrated that: 1) the need for the development clearly outweighs the biodiversity value of the proposed development; and 2) the impacts of the development can be satisfactorily mitigated and acceptably managed through appropriate future management regimes.

2 Methodology

2.1 Review of Existing Information

The Sully to Cosmeston ATR Preliminary Ecological Appraisal (Ref 5) was reviewed.

2.2 Preliminary Ground Level Roost Assessment

A preliminary GLRA was undertaken during daylight hours of trees and structures on 25 May 2023 by bat licensed Senior Ecologist (licence number available upon request) Julie Player (MCIEEM) and accompanied by Graduate Ecologist Rachel Turcan (Qualifying CIEEM). This survey was undertaken following Bat Conservation Trust Guidelines (Ref 6) to assess trees and structures to identify any potential roost features (PRFs) suitable for roosting bats which are most likely to be impacted by the ATR proposals within the proposed development boundary between Sully and Cosmeston.

An inspection of the trees was undertaken from ground level to compile information about the tree, identify features that bats could potentially use for roosting and record any evidence of roosting bats. The survey was carried out using binoculars and an extendable mirror when required.

A total of 16 trees and three bridge structures underwent a preliminary ground level bat roost assessment. The locations of these trees are shown on Drawing 10056562-ARC-AT-010-DR-E-00002.

PRFs that may be used by roosting bats in trees include:

- Woodpecker holes;
- Rot holes;
- Hazard beams;
- Vertical or horizontal cracks and splits (such as frost cracks) in stems and branches;
- Partially detached flaky bark;
- Knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- Man-made holes (e.g., cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
- Cankers (caused by localised bark death) in which cavities have developed;
- Butt rot cavities near the base of tree stems;
- Double leaders forming compression forks with bark and potential cavities;
- Gaps between overlapping stems or branches;

- Partially detached ivy *(Hedera helix)* with stem diameters of more than 50mm and/or dense ivy foliage that could potentially conceal roosting features; and
- Artificial bat, bird or dormouse nest boxes.

PRFs that may be used by roosting bats in structures include:

- Gaps between stone and brick work (where mortar has fallen away);
- Drainage holes;
- Expansion joints; and
- Gaps and cracks, especially those that lead to voids.

Trees and structures were categorised based on the features' suitability for roosting bats, according to the descriptions provided in Table 1, taken from the BCT Survey Guidelines (Ref 6).

Table 1. *Guidelines for assessing the potential suitability of features within trees and structures to support roosting bats.*

Suitability	Description of roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A tree with one or more potential roosting sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but are unlikely to support a roost of high conservation status.
High	A tree with one or more potential roosting sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection conditions and surrounding habitat.
Confirmed	Conclusive evidence of roosting bats, such as droppings, staining, bats themselves.

2.3 Limitations

The GLRA can only identify what was present on the site at the time of the field survey and trees/ structures and their features and usage by bat species can change overtime. The length of time survey data can remain valid will depend on a case-by-case basis, but it is generally considered that if the proposed development does not commence within two years of the date of this report, then an update of the surveys is likely to be required.

The surveys were undertaken in line with Edition 3 of the Bat Conservation Trust Good Practice Guidelines (Ref 6) which were current in May 2023. In October 2023 a fourth edition was published and therefore recommendations in this report are based on that document (Ref 7).

3 Results

3.1 Previous Reports

An extended Phase 1 habitat survey and desk study were undertaken by Arcadis Consulting (UK) Ltd in 2023 (Ref 5). The desk study returned records of eight species of bats – lesser horseshoe *(Rhinolophus hipposideros)*, whiskered *(Myotis mystacinus)*, noctule *(Nyctalus noctula)*, lesser noctule *(Nyctalus leisleri)*, common pipistrelle *(Pipistrellus pipistrellus)*, Nathusius's pipistrelle *(Pipistrellus nathusii)*, soprano pipistrelle *(Pipistrellus pygmaeus)*, and serotine *(Eptesicus serotinus)*. The closest record was for a foraging pipistrelle bat located 139m from the site, with the closest roost being 531m from the site for an unknown bat species.

The habitats recorded within the site were considered suitable to support foraging and commuting bats and include the hedgerow, scattered trees and woodland. Trees located within the woodland and hedgerow along the B4267, at the most western section of the site, were of a suitable size and structure that they could support potential bat roosting features, but a ground level roost assessment was not completed during the survey.

The results from the field survey noted that all bridges on site appeared to be in good condition with some dense ivy suitable to support small numbers/individual crevice dwelling roosting bats, therefore, a GLRA was recommended.

3.3 Preliminary Ground Level Roost Assessment Results

The classification of trees and structures with PRFs and that were most likely to be impacted by the ATR proposals between Sully and Cosmeston are provided in Table 2 using the classification provided in section 2.2. The raw tree and structure survey data are available in Appendix A. The locations of trees and structures are shown on Drawing 10056562-ARC-AT-010-DR-E-00002.

The GLRA identified the following:

- **Negligible potential** there were 13 trees (1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 14 and 15) and one structure (Swanbridge Road bridge) within the proposed site boundary that were assessed as not containing any PRFs and considered to hold "negligible" potential for roosting bats.
- **Low potential** there were three trees (9, 13 and 16) and two structures (St Mary's Well Bay Road bridge and Fort Road bridge) within the proposed site boundary that offered low suitability PRFs for roosting bats.

Table 2. *GLRA summary of trees and structures with PRFs within the proposed development.*

Tree reference/ structure name	PRFs
9	Ivy covered trunk and top branches
13	Knot hole approx. 8-9m high on southern aspect
16	Ivy cover

Tree reference/ structure name	PRFs
St Mary's Well Bay Road bridge	Broken stone along ledge (east aspect).
Fort Road bridge	Missing mortar between stone and brick on southern and northern aspect.

- **Moderate potential -** there were no moderate suitability PRFs within the proposed site boundary.
- **High potential -** there were no high suitability PRFs within the proposed site boundary.
- **Confirmed roost -** there were no confirmed roosts within the proposed site boundary.

4 Discussion and Conclusion

Review of the Sully to Cosmeston ATR Preliminary Ecological Appraisal (Ref 1) considered that the habitats recorded within and immediately surrounding the proposed ATR development were suitable for foraging and commuting bats. Additionally, records returned as part of the desk study confirmed eight species of bat in the past 10 years and within 2km of the proposed route. The closest record was for a foraging pipistrelle bat located 139m from the site, with the closest roost being 531m from the site for an unknown bat species.

The GLRA did not confirm any bat roosts or evidence to indicate that bats were utilising any of the trees or structures. A total of 16 trees and 3 structures were surveyed as part of the GLRA of which 13 trees and one bridge structure were recorded as "negligible" and will not require further survey. However, the survey did identify three trees (9, 13 and 16) and two structures (St Mary's Well Bay Road bridge and Fort Road bridge) that offered low PRFs for bats. It is anticipated that the works to the bridges will be limited to the upper deck and re-surfacing and can be timed when (if it is a roost) any bats are absent and there is no need for further bat survey work.

Tree 16 is located outside the works area and no impacts are anticipated, but there are likely to be works within the canopy/root protection zone, of trees 9 and 13. According to the Bat Conservation Trust (BCT) Good Practice Guidelines (Ref 7) "*trees identified as having low suitability do not require further survey"*, however, the survey results from the GLRA were on tree 9 and 13 were inconclusive due to the surveyor not being unable to confirm the PRF status from the ground due to the extent of ivy cover.

BCT (Ref 7) also states *"if ground surveys are inconclusive and PRFs could be present at height, it may still be necessary to carry out further surveys"*. Therefore, it is recommended that trees 9 and 13 should undergo a climb and inspection survey by a qualified ecologist to check PRFs (and behind the ivy for tree 9) for their potential to support roosting bats.

5 Recommendations

5.1 Further Survey

The following survey recommendations should be undertaken before works commence.

5.1.1 Inspection survey

Trees 9 and 13 should undergo a climb and inspection survey by a qualified ecologist with the use of an endoscope to check all PRFs for bats.

If the extent of works to St Mary's Well Bay Road bridge and Fort Road bridge alters then they should also be subject to climb and inspection survey.

Further surveys may also be dependent on the results of the arboricultural survey report and recommendations, this report will be revisited when this becomes available.

5.2 Mitigation

Mitigation will be confirmed once the recommendations outlined in Section 5.1.1 have been completed and the extent of the works and the provisions of any licences are known. However, the following mitigation recommendations are likely to include:

- Retain as much of the woodland, hedgerows and trees and ensure that habitat connectivity is maintained where possible.
- A licenced ecologist should provide a toolbox talk to all contractors and advise them of the ecological constraints on site and mitigation requirements before any works can commence.
- Night working and the use of artificial lighting should be avoided, if this is not possible then any new lighting to be introduced should be designed to minimise light spillage (by following the Bat Conservation Trust's guidance on lighting (Ref 8) and not directed onto adjacence habitat (such as woodland, hedgerows, watercourses), any bat boxes or onto any boundary vegetation to be retained, which should remain dark where practicable.
- For trees with low roost potential no further survey is required, however, if these trees require felling and/ or pruning this work should be carried out as "soft / section felling" under supervision by a licensed bat worker as a precaution. This is where tree limbs are cut and left grounded overnight in the unlikely event that bats are present this method will allow any bats to emerge safely.
- Any tree felling, pruning and/ or crowning works should take place during September/October to avoid maternity and hibernation seasons when bats are most vulnerable to disturbance.
- There are no constraints for the timing of works for trees where it has been concluded that bats are likely absent. However, the felling of the trees from March to August should be preceded by a nesting bird survey. If any active nests are discovered, then the nest and surrounding habitat must be left undisturbed until the young have fledged.
- If a licence is required, the licence would need to satisfy the "3 tests" of the conservation of Habitats and Species Regulations (Ref 1):
    1. Need/ purpose of the works must be proved to be for public health or safety or imperative reason of over-riding public interest;
    2. That there are no reasonable/ satisfactory alternatives (including "do nothing" option); and
    3. That the proposals would not be detrimental to the favourable conservation status of bats

6 Enhancement Measures

The development provides several opportunities to incorporate ecological enhancements that will provide a benefit to wildlife in the area. Such enhancement measures are in line with the recommendations of Planning Policy Wales (PPW) (Ref 3) and the Vale of Glamorgan Biodiversity and Development Supplementary Planning Guidance (Ref 9) and as such would be considered favourably when determining the planning application.

6.1 Habitat creation/ Re-instatement

The proposed development of the ATR may result in the loss of some trees. Therefore, planting of similar tree species should form part of the development design to ensure net benefit to biodiversity in line with national policy (Appendix A). Section 1.5

Any landscape planting proposed for the scheme should include wildlife attractive plant species that produce a variety of flower, fruit, nut and berries to provide food sources throughout the year and should include the following:

- Use native plant species;
- Create a good vegetative structure (trees, understory, ground flora) to provide a rage of habitats and food sources;
- Incorporate green corridors to prevent fragmentation of habitats and enable movement on site; and
- Connecting areas of open canopy with local species.

An ecologist can provide additional information on the creation, planting, and management of these habitats.

6.2 Wildlife Boxes/ Features

Bat boxes could be installed within the retained trees. This would provide enhancement/ replacement for the loss of potential roost features within woodland trees, that would potentially be removed. The bat boxes that are suitable are detailed below, but other brand of boxes would also be suitable:

- Schwegler 2F Bat Box or similar woodcrete boxes that are suitable for small species such as pipistrelle.
- Schwegler 2FN Bat Box or similar woodcrete boxes that are suitable for larger bat species and small species, the box has two entrances.

Woodcrete boxes have been recommended as they are constructed from a material which is long lasting, and the design of the boxes means they require no maintenance; however, other materials do have similar thermal properties and could be considered. Care should be taken to avoid using boxes that are not long lasting or require cleaning. All boxes require annual inspections to ensure they remain in situ and are fit for purpose.

7 References

Ref 1: His Majesty's Stationery Office (2017). The Conservation of Habitats and Species Regulations 2017(as amended by the EU Exit Regulations 2019).

Ref 2: His Majesty's Stationery Office. (1981). The Wildlife and Countryside Act 1981 (as amended).

Ref 3: Planning Policy Wales Edition 11 (February 2021) Welsh Government. Available at: Planning Policy Wales - Edition 11 (gov.wales)

Ref 4: Technical Advice Note 5 Nature Conservation and Planning (September 2009) Welsh Government

Ref 5: Arcadis Consulting (UK) Ltd (2023). Sully to Cosmeston ATR Preliminary Ecological Appraisal. Document reference: 10056562-ARC-AT-300-RP-E-00001.

Ref 6: Collins, J. (ed.) (2018) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London.

Ref 7: Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

Ref 8: BCT (2023) Bats and Artificial Lighting. Guidance Note 08/2023. Bat Conservation Trust

Ref 9: Vale of Glamorgan Council (2006) Supplementary Planning Guidance: Sustainable Development. Vale of Glamorgan Council, Barry

Legend

Site boundary

Bridge Roost Suitability

Low

Negligible

Tree Roost Suitability

Low

Negligible

Notes
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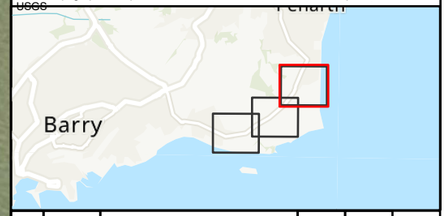

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Client:

VALE of GLAMORGAN
BRO MORGANNWG

PROJECT:
SULLY TO COSMESTON ATR

Site
Sully to Cosmeston
Active Travel Route

Client
Vale of Glamorgan County Borough Council

ARCADIS

Registered office:
80Fen
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Title:

Bat Preliminary Ground Level Roost Assessment Plan

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Designed	E. Hopkins	Date: 17 JAN 24	Signed
Drawn	R. Pakhare	Date: 17 JAN 24	Signed
Checked	E. Hopkins	Date: 17 JAN 24	Signed
Approved	S. Walters	Date: 17 JAN 24	Signed
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Legend

- Site boundary
- No Access

Bridge Roost Suitability

- Low
- Negligible

Tree Roost Suitability

- Low
- Negligible

Notes
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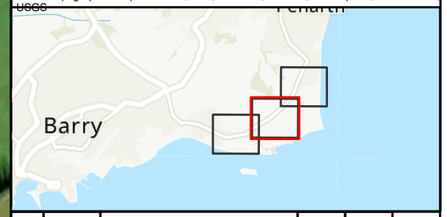
World Topographic Map: Esri UK, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS



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Legend

Site boundary

Bridge Roost Suitability

Low

Negligible

Tree Roost Suitability

Low

Negligible

Notes
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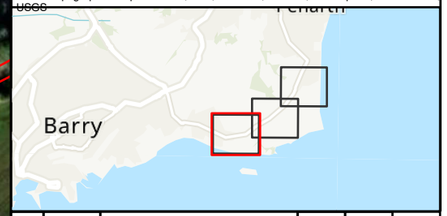
World Topographic Map: Esri UK, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS



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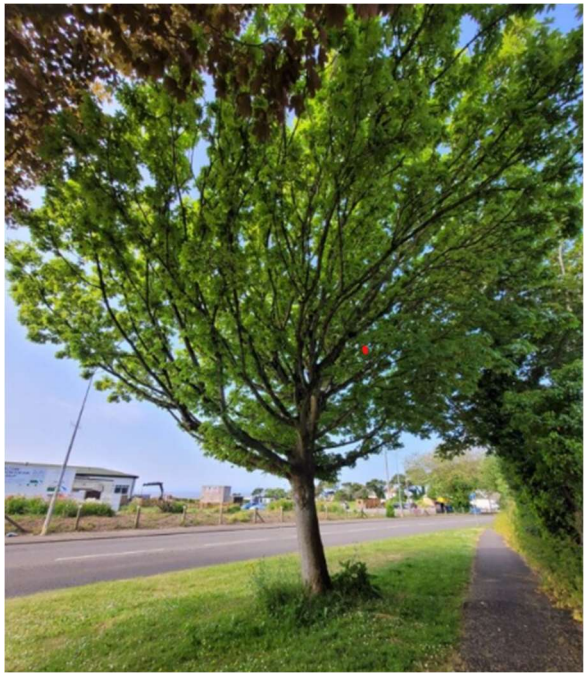
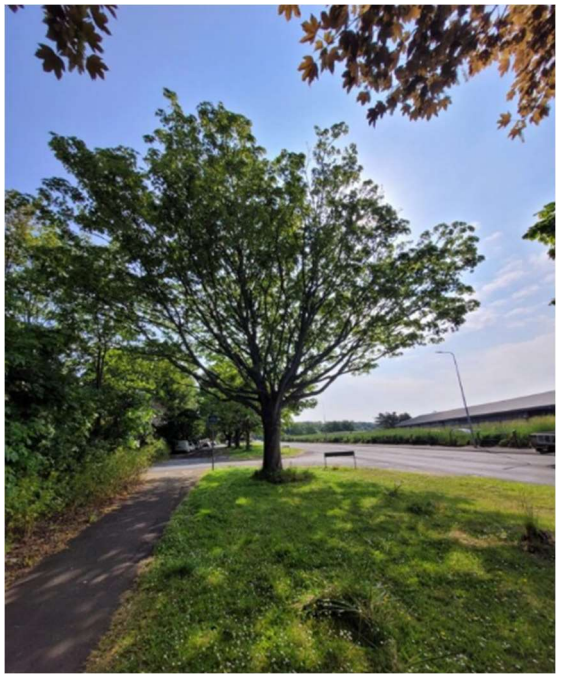
Appendix A – Ground Level Roost Assessment Survey Data

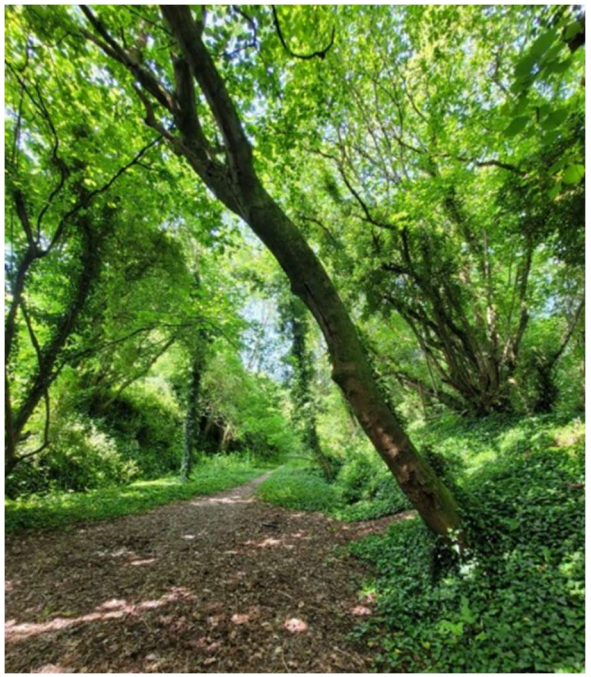
Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
1	Acer sp.	Negligible	N/A	ST 16202 67911	Bird nest present	

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
2	Acer sp.	Negligible	N/A	ST 16212 67918		

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
3	Acer sp.	Negligible	N/A	ST 16226 67920		

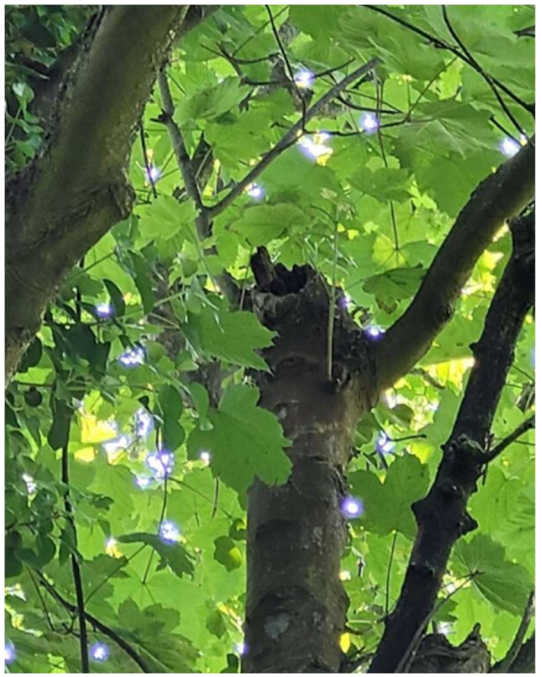
Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
4	Acer sp.	Negligible	N/A	ST 16250 67923		
5	Acer sp.	Negligible	N/A	ST 16264 67928		See line of trees image 4
6	Field maple	Negligible	N/A	ST 16274 67930		See line of trees in image 4
7	Field maple	Negligible	N/A	ST 16281 67931		See line of trees in image 4
8	Field maple	Negligible	N/A	ST 16290 67935		See line of trees in image 4

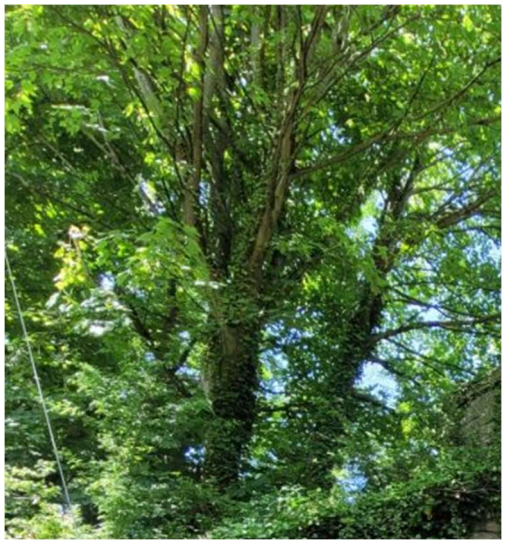
Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
9	Ash	Low	Ivy	ST 17188 68340		

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
10	Acer sp	Negligible	N/A	ST 17199 68338		

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
11	Sycamore	Negligible	N/A	ST 17382 68423		

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
12	Field maple	Negligible	N/A	ST 17550 68497		

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
13	Sycamore	Low	Knot hole, Southern aspect, 8-9m	ST 17586 68507		

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
14	Field maple	Negligible	N/A	ST 17862 68652		
15	Oak sp.	Negligible	N/A	ST 18021 68805		No image available

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
16	Willow sp.	Low	Ivy	ST 18036 68802	Bird nest present	
Swanbridge Road bridge	Stone and Brick	Negligible	N/A	ST 16415 68052	Thin layer of ivy on east and west aspect	

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
						
St Mary's Well Bay Road bridge	Stone and brick	Low	Broken stone on ledge on eastern aspect	ST 17542 68508		

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
						
Fort Road bridge	Stone and brick	Low	Missing mortar on southern and northern aspects. Ivy on northern and southern aspects.	ST 17871 68649		  

Tree / Structure Number	Tree Species / Structure substrate	Bat Roost Potential	Description of Feature	Grid Reference	Notes	Photograph
						

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