Pembroke Port, Pembroke Dock

Preliminary Bat Roost Assessment

856531

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RSK GENERAL NOTES

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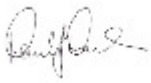
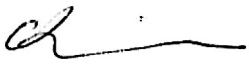
Signature		Signature:	
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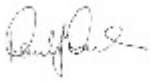
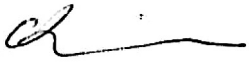
Signature		Signature	
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CONTENTS

EXECUTIVE SUMMARY ..... **II**

1 INTRODUCTION **1**

1.1 Purpose of this Report 1

1.2 Ecological Context 1

1.3 Structure of this Report 2

2 METHODS **3**

2.1 Preliminary Bat Roost Assessment 3

2.2 Validity of Data 4

2.3 Constraints 5

3 RESULTS **6**

3.1 Buildings 6

3.2 Walls 7

3.3 Trees 8

4 EVALUATION AND CONCLUSIONS **9**

4.1 Buildings 9

4.2 Walls 10

4.3 Trees 11

5 REFERENCES **13**

6 FIGURES **14**

APPENDIX A – PROTECTED SPECIES LEGISLATION .....

General 3

APPENDIX B – TARGET NOTES .....

APPENDIX C – FULL RESULTS OF PRELIMINARY ROOST ASSESSMENTS .....

EXECUTIVE SUMMARY

1. This report presents the findings of a preliminary bat roost inspection for the proposed redevelopment of Pembroke Port, Pembroke Dock, Pembrokeshire. The proposals include the demolition of buildings, construction of new buildings, creation of transport corridors, vegetation removal and possible changes to the site lighting.

2. Greater Horseshoe Bat roosts are located in The Commodore Hotel, *c.* 35 m outside the site boundary (Biodiversity Solutions 2014) and in Building B10 (confirmed via DNA analysis of droppings found during this building inspection survey). These are likely to be linked and at least three nocturnal surveys will be required prior to redevelopment works commencing. This species is very susceptible to disturbance and information gained through these surveys will contribute to an assessment of the potential effect of the proposed works on the species and may inform the approach to mitigation, if required.

3. Bat droppings recovered from buildings B38 and B50 were confirmed as those of Common Pipistrelle and Brown Long-eared bat, respectively. A probable bat dropping could not be recovered for DNA analysis in building B30. The initial evidence suggests the use of these buildings by a small number of bats. At least three nocturnal roost surveys are required to determine the type and size of roost present and to provide information for a European Protected Species (EPS) development licence.

4. Possible bat droppings were identified but could not be collected from building B48 due to a lack of internal access. If access is not gained to fully assess the building, at least three nocturnal surveys are recommended to determine the presence or likely absence of roosting bats. Additionally, Building B52, *c.* 8 m outside the site boundary, is recommended for an internal inspection to assess the need for further surveys.

5. Buildings B41, B2, B6, B8, B31, B34 and B39 and a wall have moderate potential for roosting bats and require at least two nocturnal roost surveys. Buildings B18, B20, B21, B26, B28, B32, B36, B42, B44, B45 and B46 have low potential for roosting bats and require one nocturnal roost survey. Building B39 should undergo a hibernation survey (between November and March, inclusive).

6. The ground level tree assessment identified 10 trees with moderate to high potential for roosting bats that require further surveys. In additional, several trees with low potential were identified and do not require further survey. Should the proposed

development affect these trees then precautionary measures should be employed during felling.

1 INTRODUCTION

1.1 Purpose of this Report

This report presents the findings of a preliminary bat roost survey of buildings and trees undertaken in connection with the proposed redevelopment of Pembroke Port, Pembroke Dock in Pembrokeshire (centred at Ordnance Survey Grid Reference SM 959 037). Buildings and trees which will, or could, be directly affected by the proposed plans were surveyed. The results of the surveys will be used to determine the scope of additional surveys and to provide information for planning applications or consultations.

The current proposals for the site (Pembroke Port Development Plan; Option 5 Layout and Demolition/Intervention Plan) include the demolition of some of the existing buildings, construction of new buildings and the provision of a designated vessel transition area, a High Bay Ship Repair and Fabrication Facility and a Crushed Rock Export operation. Several transport corridors15 m to 30 m wide and oriented east-west and north-south across the site will be created and the Graving and Dry Dock will be in-filled, Meanwhile, vegetation removal is likely to be required and there may be changes to the site lighting.

1.2 Ecological Context

Pembroke Port is an active industrial port and dockyard with frequent movements of machinery, heavy goods vehicles, and ferries. It is dominated by hard-standing, bare ground and industrial, commercial and office buildings associated with the port operations. A sand-storage depot is present in the east of the site. Vegetated areas are principally located in the southern part of the site include a small area of immature secondary broad-leaved woodland, scattered trees, ruderal open grassland, a small area of unimproved grassland and scrub. Elsewhere, vegetation is scattered across the site and includes ephemeral species, amenity grassland and introduced shrubs.

The waters of Milford Haven form the northern site boundary of Pembroke Port and Milford Haven and an industrial area forms the western site boundary. To the south the site is bounded by residential properties, the South Pembrokeshire Hospital, a golf course and farmland. The town of Pembroke lies east of the site and is dominated by residential and commercial buildings and transport infrastructure. The location of the site is illustrated in *Figure 1*.

1.3 Structure of this Report

The remainder of this report is structured as follows:

- *Section 2* describes the survey and assessment methodologies;
- *Section 3* presents the results of the field surveys;
- *Section 4* evaluates the results and presents conclusions;
- *Section 5* lists the references; and
- *Section 6* provides the figures.

Subsequent sections (*Appendix A* to *F*) provide:

- *Appendix A* lists relevant protected species legislation;
- *Appendix B* presents the target notes; and
- *Appendix C* full results of preliminary roost assessments

2 METHODS

2.1 Preliminary Bat Roost Assessment

There are many buildings present on the site which vary in age from relatively modern to *c*. 200 years old. A survey was undertaken of the buildings which are likely to be affected by the proposed works and included those that appear to require demolition (or are adjacent to buildings which will require demolition), under the current proposals (Pembroke Port Option 5 Layout and Demolition Plan – Layout 1). Additionally, buildings adjacent to the site of proposed new buildings and buildings within or immediately adjacent to, the footprint of the proposed infrastructure were also surveyed. Therefore, RSK surveyors did not survey every building on site. Buildings that were and were not surveyed are illustrated in *Figure 2*.

Trees present on the site vary in age from immature to mature specimens. A preliminary roost inspection from ground-level was undertaken of the trees which are likely to be affected by the proposed works under the current proposals (Pembroke Port Option 5 Layout and Demolition Plan – Layout 1). Therefore, RSK surveyors did not survey every tree on site.

The survey of the buildings and trees was undertaken between 6 and 15 June 2017 by Sam Davis with assistance from Paul Parker. Sam is an experienced ecologist and holds a Class 2 Natural England Bat Survey Licence 2015-17465-CLS-CLS.

Buildings were assessed externally and internally to ascertain suitability for roosting bats, taking account of the following factors that influence the likelihood of bats roosting.

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

The descriptions of the buildings were recorded onto specially-designed survey sheets, and digital photographs were taken. A building's potential to support roosting bats was then classified using the criteria in *Table 1* (Collins 2016).

Trees were surveyed from ground-level and features that might be used by roosting bats were described and categorised according to Collins et al (2016). Each tree is given a category during the ground-level surveys (see *Table 1*) based on its potential for roosting bats. Where accessible and safe, potential roosting features were inspected with the use of a ladder and endoscope to look for evidence of roosting bats (*i.e.* droppings, polished surfaces, urine staining and dead or alive bats).

Table 1: Classification Criteria for Bat Roosting Potential for Buildings and Trees

Category	Description
Negligible potential	Negligible habitat features on site likely to be used by roosting bats.
Low potential	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats. A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate potential	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, condition and surrounding habitat but unlikely to support a roost of high conservation status.
High potential	A structure or tree with one or more potential roost sites that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed roost	Bats or evidence of bats recorded within the building during the initial inspection surveys or during dusk/dawn surveys. A confirmed record (supplied by records centre/local bat group) would also apply.

Bat droppings, found during the inspections, were sent for testing at Ecowarwicker Ecological Forensics, Warwick University to identify the species of origin through DNA analysis.

2.2 Validity of Data

Data collected for submissions to the Local Planning Authority are usually valid up to two years following the field survey, however data may be valid for a shorter duration in the case of species such as Greater Horseshoe bats, which are listed in *Annex 2* of *The*

Habitats Directive. Should construction works have not commenced within two years then repeat surveys will need to be completed.

2.3 Constraints

Building B17 only underwent a partial external survey due to a lack of access. Buildings B41 and B48 were surveyed externally only as internal access was not available. Meanwhile, building B52 was only surveyed externally from the site boundary, due to a lack of access. Additionally, it was possible to survey only the eastern side of a tree located at *Target Note 2* due to its inaccessible position behind a chain-link fence.

3 RESULTS

3.1 Buildings

A total of 50 buildings, 47 within and 3 outside the site boundary, were surveyed and are illustrated in *Figure 2*. Building B9 was scoped out of the survey as it will not be affected by the proposed works.

Due to the number of buildings surveyed, an abbreviated set of survey results is available in *Table 2*. *Table 2* includes only those buildings where possible bat droppings were found or which contained potential roosting features categorised as being of low, moderate or high potential for roosting bats and therefore require further survey/s under the current guidelines (Collins et al 2016). The full results of the Preliminary Bat Roost Assessment are available at *Appendix C* and include a description of each building, their potential to support roosting bats, and any evidence recorded during the survey.

Table 2: Summary of Building Assessment for Roosting Bats

Building Reference	Bat Roost Potential
Building B2	Moderate
Building B6	Moderate
Building B8 (The Master Shipwright's House)	Moderate, however, the building was subsequently scoped out of further surveys as no longer affected by redevelopment works.
Building B10 (Coach House to The Master Shipwright's House)	Greater Horseshoe bat roost. Confirmed via DNA analysis of droppings found in the building during the survey
Building B17 (The Old Commodore Hotel)	Known Greater Horseshoe bat roost.
Building B18	Low
Building B20 (Mill Forge)	Low
Building B21 (Mill Forge)	Low
Building B26	Low
Building B28	Low
Building B30	High
Building B31	Moderate
Building B32	Low
Building B34	Moderate
Building B36	Low
Building B38	Common Pipistrelle bat roost confirmed via DNA analysis of droppings found during the survey
Building B39	Moderate plus requires hibernation surveys
Building B41	Moderate
Building B42	Low
Building B44	Low
Building B45	Low
Building B46	Low
Building B48	High
Building B50	Brown Long-eared bat roost confirmed by DNA analysis of bat dropping found during the survey.
B52	High

3.2 Walls

An old stone wall, possibly enclosing a former walled garden, was surveyed and had a gap in the mortar above a gateway at *Target Note 1*. The gap was 2 cm wide and *c.* 30 cm in length and extended upwards into the stone work where there were multiple

cavities. The cavities on the right hand side had cobweb covering them but others were not. This was wall as having moderate potential for roosting bats.

3.3 Trees

More than 40 trees located within the site boundary were included in the survey. Trees were tagged if they had potential for roosting bats or there was a possibility of confusion in identifying a specific tree. During the survey a tree located at *Target Note 2*, *c.* 5 m outside the site boundary and within the port wall, was identified as having the potential to be affected by the proposed works. Due to its apparent suitability for bats, close proximity to the site and location adjacent to an area of proposed de-vegetation it was scoped into the survey.

Due to the number of trees surveyed, an abbreviated set of survey results is available in *Table 3*. *Table 3* includes those trees which were identified as containing potential roosting features categorised as being of moderate or high potential for roosting bats and therefore requiring further surveys under the current guidelines (Collins et al 2016). The full results are available in *Appendix C* and include a description of each tree, its potential to support roosting bats, and any evidence recorded during the survey.

Table 3: Summary of Tree Assessment for Roosting Bats

Tree Tag Reference	Bat Roost Potential
1963	Moderate
1962	Moderate
1960	Moderate
1958	High
1957	Moderate
1954	Moderate
1950	Moderate
1945	High
1942	High
Additional tree (*Target Note 1*)	Moderate

4 EVALUATION AND CONCLUSIONS

4.1 Buildings

An evaluation of buildings identified as having high, moderate and low potential for roosting bats and conclusions regarding further survey requirements are described in *Table 4*.

Table 4: Buildings with High, Moderate and Low Potential for Roosting Bats

Building name	Building Potential	Evaluation and Conclusions
The Commodore Hotel (B17)	High	Known Greater Horseshoe Bat roost (Ecology Solutions 2014). New nocturnal surveys required due to the time that has elapsed since last survey.
Building B10	High	Confirmed as a Greater Horseshoe Bat roost via droppings collected during inspection survey. Very likely to be linked to the roost in The Commodore Hotel. Nocturnal surveys required.
Buildings B38and B50	High	B38 confirmed as a Common Pipistrelle bat roost via two droppings collected during the inspection survey. B50 confirmed as a Brown Long-eared bat roost via a single dropping. This initial evidence would indicate that the buildings are used by a limited number of bats (possibly even a single individual) on an infrequent basis and the low number of droppings may be evidence of exploratory behaviour by bats. .Nocturnal surveys required.
Building B30	High	A single dropping probably belonging to a bat was identified and this .initial evidence would indicate that the building is used by a limited number of bats (possibly even a single individual) on an infrequent basis and the low number of droppings may be evidence of exploratory behaviour by bats. Nocturnal surveys required.
Building B48	High	A number of possible bat droppings were present inside the building but could not be collected. If internal access unavailable then nocturnal surveys required.
Building B52	High	The building is a very old stone tower, which together with its close proximity to the site boundary and the area of the site which is likely to be de-vegetated indicate B52 has high potential for roosting bats. It requires an internal survey to assess its roosting potential.
Building B41	Moderate	External features of low potential however, due to lack of internal access this was raised to moderate. Internal survey required to confirm roosting potential, if not available survey schedule as per moderate potential to determine the presence or likely absence of roosting bats.
Buildings B2, B6, B8, B31, B34 and B39	Moderate	Buildings with a variety of potential roosting features including holes in masonry, inaccessible roof voids, gaps behind fascia boards and gaps allowing possible access above walls. Nocturnal surveys required to determine the presence or likely absence of roosting bats.
Buildings B18,	Low	Buildings with a variety of potential roosting features including cracks and

B20, B21, B26, B28, B32, B36, B42, B44, B45 and B46		holes in walls, gaps in soffit boxes, raised/missing roof tiles and gaps under ridge tiles. Nocturnal surveys required to determine the presence or likely absence of roosting bats.

Nocturnal surveys for buildings with high potential should comprise at least three nocturnal roost surveys (comprising dusk emergence and dawn re-entry surveys) and should be undertaken between May and September, with two surveys completed before the end of August and one during September. Surveys for buildings with moderate potential should comprise at least two nocturnal roost surveys (comprising dusk emergence and dawn re-entry surveys) and should be undertaken between May and September, with at least one survey undertaken before the end of August. Surveys for high and moderate potential buildings should preferably be spaced four weeks apart. Surveys for buildings with low potential should comprise at least one nocturnal roost survey between May and August (comprising either a dusk emergence or dawn re-entry survey). Surveys should preferably be undertaken during suitable weather conditions (*i.e.* night time temperature above 10°C, no rain or strong winds).

4.1.1 Hibernation survey

Several holes in the internal southern elevation of Building B39, which appeared to have been caused by the removal of the joists of a former ceiling, were assessed as having the potential for hibernating bats. It is recommended that these undergo a survey during the hibernation period for bats, (between November and March inclusive) although this is weather and location dependent.

If plans for the proposed works change, resulting in development affecting or adjacent to buildings not assessed during this survey then it may be necessary to update the survey work to include such buildings.

4.2 Walls

The stone wall, at *Target Note 1* had a moderate potential roosting feature and will require nocturnal roost surveys (comprising dusk emergence and dawn re-entry surveys) to determine the presence or likely absence of roosting bats. At least two nocturnal roost surveys of the wall should be undertaken between May to September, with at least one survey undertaken before the end of August.

4.3 Trees

An evaluation of trees identified as having high or moderate potential for roosting bats and conclusions regarding further survey requirements are described in *Table 5*.

Table 5: Trees with High and Moderate Potential for Roosting Bats

High Potential Trees	Evaluation and Conclusions
Tree 1958	A mature *Fraxinus excelsior* (Ash) with a high potential branch tear out plus additional potential roosting features. An aerial survey is recommended.
Trees 1945 and 1942	Both trees are mature *Acer pseudoplatanus* (Sycamore) with branch tear outs together with other features. An aerial survey of each tree is recommended.
Moderate Potential Trees	**Evaluation and Conclusions**
Trees 1962, 1954 and 1950	Mature *Quercus ilex* (Evergreen Oak), *Fraxinus excelsior* (Ash) and *Acer pseudoplatanus* (Sycamore) respectively. Tree 1962 had a hole with possible smoothing / scratching on the lower lip. Tree 1954 had a hole adjacent to a snapped branch and Tree 1950 had a limb tear-out. An aerial survey of each tree is recommended.
Trees 1963, 1960 and 1957.	A mature *Quercus ilex* (Evergreen Oak) and 2 mature *Fraxinus excelsior* (Ash) respectively. Each tree had a large hole at or near the base and it suggested they undergo a second endoscope survey;
Low Potential Trees	**Evaluation and Conclusions**
18 trees, untagged	No further surveys are required (Collins 2016). Should the proposed development affect these trees then precautionary measures should be employed during felling. This can include the inspection of the trees using climbing equipment to remove the *Hedera helix* (Ivy) prior to felling to confirm the absence of potential roosting features; or the sectional felling of the trees and careful lowering to the ground using ropes and pulleys to allow for a final inspection on the ground. In the highly unlikely event that a bat roost is discovered then felling works must stop and an ecologist must be contacted immediately.

Trees recommended for aerial survey will be climbed to closely inspect the potential roosting features identified and to search for evidence of bats. The tree climbing surveys will be undertaken by two bat ecologists trained in tree climbing and aerial rescue using ropes and harnesses. The results of this survey will update the roosting potential of each tree based on the type and frequency of roosting features identified and will also assess any evidence that bats are using the tree at the time of the survey.

Additional nocturnal bat surveys or climbing inspections may be required following the completion of this survey. If the aerial surveys confirm the roosting potential of the tree as moderate or high then further surveys may be necessary. All surveys described will follow the methods described in the Bat Conservation Trust Good Practice Guideline (Collins et al 2016).

5 REFERENCES

Biodiversity Solutions (2014). Wind turbine bat survey report.

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

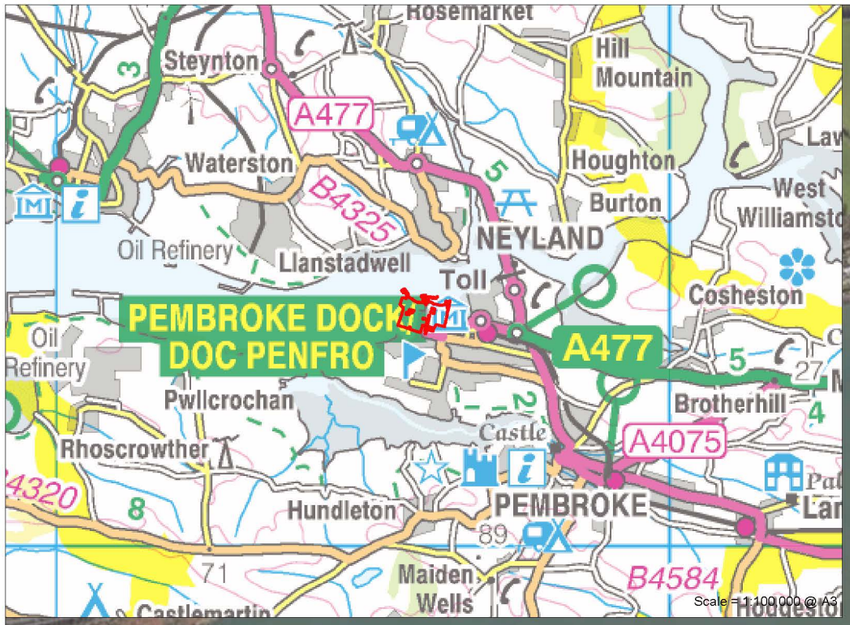
Institute of Environmental Assessment (1995). *Guidelines for Baseline Ecological Assessment*. Spon, London.

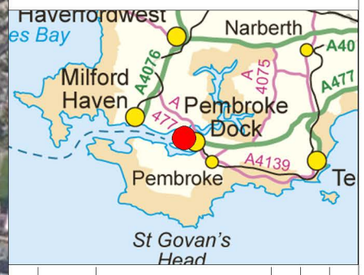
6 FIGURES

Figure 1 Site Location Plan

Figure 2 Preliminary Building Bat Roost Inspection with Target Note

Figure 3 Ground Level Tree Assessment with Target Note





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Pembroke Docks

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Figure 1

Site Location Plan

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metres
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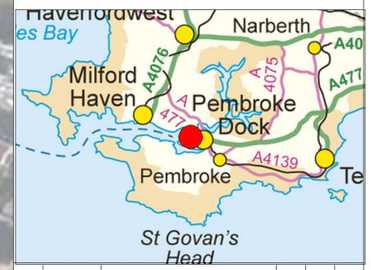
Site boundary

Preliminary Roost Inspection

- High bat roost potential
- Moderate bat roost potential
- Low bat roost potential
- No further surveys requried
- Building not affected by development
- Target note



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Pembroke Docks

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Figure 2

Preliminary Building Bat Roost Inspection with Target Note

0 100

metres

Scale = 1:3,500 @ A3

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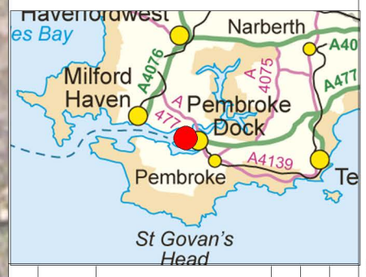
Site boundary

Ground Level Tree Assessment

- Tree - High bat roost potential
- Tree - Moderate bat roost potential
- Tree - Low bat roost potential
- Tree - Negligible bat roost potential



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Pembroke Docks

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Figure 3

Ground Level Tree Assessment Results with Target Note

0 25

metres

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APPENDIX A – PROTECTED SPECIES LEGISLATION

General

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

Bats

All species of British bat are protected by *The Wildlife and Countryside Act 1981 (as amended),* extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take;
- possess or control;
- intentionally or recklessly damage, destroy or obstruct access to a breeding site or resting place; and
- intentionally or recklessly disturb while the animal occupies a breeding site or resting place.

Bats are also European Protected Species listed on *The Conservation (Natural Habitats, & c.) Regulations 1994 (as amended).* This legislation makes it an offence to:

- deliberately capture, injure or kill;
- deliberately disturb, including 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) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong;
- damage or destroy a breeding site or resting place; and
- possess, control, transport, sell, exchange, or offer for sale or exchange.

APPENDIX B – TARGET NOTES

Target Note 1.	An old stone and mortar wall, possibly enclosing a former walled-garden that is now an area of secondary broad-leaved woodland. There was a gap in the mortar above a gateway at the northern end of the wall. The gasp was c. 2 cm wide and 30 cm long and extended into the wall. The gap led into multiple cavities, some were heavily cobwebbed whilst others were not. Moderate potential for roosting bats.
Target Note 2.	Tree located c. 5 m outside the site boundary and within the port wall, was scoped in to the survey due to its suitability for bats, close proximity to the site and location adjacent to an area of proposed de-vegetation. Only the eastern side of this tree was visible and was surveyed from the site boundary as access was not available. Three pruning wounds present on the easterly limb were of moderate potential and one was of low potential for roosting bats.

APPENDIX C – FULL RESULTS OF PRELIMINARY ROOST ASSESSMENTS

Table 4 displays the full results of the building assessment for roosting bats.

Table 4: Building Assessment for Roosting Bats

Building Reference	External Description	Internal Description	Bat Roost Potential
Building B1	B1 is a single-storey warehouse of modern design. The lower 3 m of the wall was constructed from breeze blocks and the portion above this was corrugated metal. The building had a pitched, metal framed roof covered with corrugated metal sheets and was *c.* 20 m in height. Potential roosting features (PRF) for bats were recorded on the building's exterior. Brickwork on the northern elevation had a crack leading to the blockwork behind. This was inspected with ladders from the inside. There were dense cobwebs present and the cavity was open at the top, exposed and lit from within the building. At the north-west corner of the building a gap was noted at the top of the breeze block where it met the corrugated metal, at a height of 3 m. This was inspected and no evidence of roosting bats was found.	The building had a large internal space with no loft spaces.	• Negligible
Building B2	B2 is a single-storey building of traditional	A small hip was visible internally on the southern	• Moderate

Building Reference	External Description	Internal Description	Bat Roost Potential
	construction, with brick cavity walls. The pitched roof had been covered with corrugated metal, which overlay wooden sarking. It was connected to a very large, modern warehouse constructed from corrugated metal, located on its southern elevation. Several PRFs or entry points for bats were recorded, as follows: • A capped, brick chimney on the south-east corner of the building has a 20 x 15 cm hole at a height of 6 m (moderate potential). • Two holes were recorded at 5 m height on the eastern elevation leading into the cavity wall (low potential) • A hole adjacent to the window on the western elevation (low potential). • An open window on the eastern elevation together with a hole at 3 m height immediately adjacent to the metal door on the southern elevation offer potential entry points.	elevation. A gap around a metal column on the adjacent warehouse wall offered access and a PRF for bats (moderate potential).	
Building B3	B3 is a derelict, two storey building constructed from concrete and brick. It had a flat roof of unknown covering material. Rainwater drained from the roof via three lead-flashed holes on the northern elevation. A possible gap between the lead flashing and the wall was noted in one hole however it was exposed, lit by daylight and of small dimensions.		• Negligible
Building B4	Single storey office building of modern	No loft space was present.	• No further survey required

Building Reference	External Description	Internal Description	Bat Roost Potential
	construction with a flat roof covered with roofing felt. Three gaps were noted between the wooden fascia boards and wall. These PRFs had the potential to be used by individual bats and were surveyed by endoscope. No bats were present and no evidence of bats was recorded.		
Building B5	A large, modern single storey, concrete framed commercial building used for mechanical servicing of lorries. The lower walls were constructed of block whilst the upper walls were constructed from corrugated cement or asbestos.	The building had a large internal space with no loft spaces. Narrow gaps were present where the piers met the arches in the concrete frame. These were torched and no bats or evidence of bats was present.	• No further survey required.
Building B6	A traditional building with cavity walls constructed from brick. The slate covered roof had pitched and hipped elements. Wooden fascia boards were present on the northern and southern elevations. A wooden soffit box was also present on the southern elevation. Lead flashing was present on a small gable end on the western elevation. PRFs were as follows: • Cracks adjacent to the window lintels on the northern elevation, up to 2 cm wide and at a height of 3.5 m. No droppings were found (low potential). • A gap between the soffit and brickwork was present on the south-east corner and on the southern elevation of the building. These gaps potentially led into a cavity or soffit box (moderate potential). • A hole, where bricks were damaged or missing, 20 x 15 cm, was present on the south-western elevation of the building. This allowed possible access to the wall cavity	A layer of roofing felt was present between the roof slates and the internal wooden sarking. The building comprised two rooms, a large warehouse area with a vaulted roof and a smaller room at the western end of the building with a small, inaccessible loft void. The void was approximately 30 x 50 cm in size (moderate potential).	• Moderate

Building Reference	External Description	Internal Description	Bat Roost Potential
	(low potential). Debris was present in the base of the hole.		
Building B7	A single storey, brick and block built building with wooden bargeboards and fascias and a pitched roof covered with corrugated sheets and fibreglass roof lights. No PRFs were noted.	The roof frame was metal.	• Negligible
Building B8 (The Master Shipwright's House)	Comprised a lower ground floor, three storeys and a loft. 150-200 year old, semi-detached, former Admiralty building. Constructed from stone and mortar. The roof comprised three hipped structures, separated by leaded valleys, surrounded by a parapet wall. The westerly roof was covered PRFs present were as follows: • A gap between coping stones on the parapet wall at the south-western corner of the western aspect (low potential). • Other PRFs included loose lead flashing on western elevation, a crack on a window lintel on the southern elevation and gaps in mortar between stones on the underside of a stone arch at basement level (moderate potential). Possible access to the roof may be offered by raised lead flashing on north-south orientated (westerly) roof ridge together with potential gaps between roofing sheets and ridge tiles on the southern hipped roof. It was not possible to fully survey the external roof structure due to access restrictions because of the dangerous condition of the roof.	The roof comprised an original iron structure which offered minimal roosting opportunity for bats. This was overlain by wooden sarking and corrugated asbestos sheeting in the westerly hipped roof and corrugated asbestos sheets in the northerly and southerly voids. The southerly and northerly roof voids were open to the external environment via holes in the roof structure and the northerly void was colder and a breeze could be felt. There were dense cobwebs in the westerly and northerly voids whereas the southerly void had few webs and had undergone recent repairs. It was not possible to fully survey the three roof voids due to access restrictions due to the poor condition of the roof. No bats or evidence of bats was recorded during the survey. The following information was recorded: • PRFs were present around chimneys in the southerly and northerly voids (moderate potential).	• Building not affected by proposed works and scoped out of nocturnal surveys.
Building B9	Scoped out of survey as not affected by		

Building Reference	External Description	Internal Description	Bat Roost Potential
	proposed works.		
Building B10 (Coach House to The Master Shipwright's House)	A two-storey 150-200 year old building constructed from stone and mortar. The roof had been covered with corrugated asbestos sheeting. Externally, potential access to the building and PRFs were provided by cracks in the walls, gaps in the masonry, a fan light over a door in the southern elevation together with a hole in the second storey external doors.	The roof frame was constructed from wood and this had been overlain with wooden sarking. There were numerous PRFs present on the ground and first floors and many potential bat droppings were found on the floor of the first floor. PRFs included: • Gaps in the stone work, between the roof and the wall and under the wall plate • Gap between the sides of a partition wall • Chimney on the ground floor with gaps between bricks used to block it allowing access to the inside of the chimney • Gaps allowing entrance to the void between the ceiling and upper floor	• Greater Horseshoe bat roost confirmed via DNA analysis
Building B11 (Pembroke Dock Ferry Terminal)	Approximately 20 year-old building comprising one storey with an additional small Irish Ferries office on the first floor. The lower 50 cm of the walls comprised stone with fully-length windows plus sections of wall comprising corrugated metal. There was a narrow metal soffit along the northern elevation. The roof was covered with roofing felt and an array of solar panels. PRFs recorded were as follows: • Rust hole in the metal soffit in the north-western corner of the building (negligible potential) • Raised metal fascia at the western end of the building. Torched and extended only 3 cm (negligible potential)	The frame comprised metal girders. Internally, the ceiling comprised corrugated metal sheeting.	• Negligible potential

Building Reference	External Description	Internal Description	Bat Roost Potential
	• A 1-2 cm wide, 15 cm long gap between the fascia and the wall on the Irish Ferries office. Torched and no bats present (negligible potential).		
Building B12 (Car Inspection Hall)	A large, modern building with walls of corrugated steel sheeting, with fibreglass windows, rested on a concrete base. There were 3 large steel doors on the eastern elevation with metal soffits over the door housing the door-raising mechanism. The western elevation was open to the outside. At night the building is very brightly lit by spotlights associated with the ferry terminal. PRFs recorded were: • Gaps between the metal fascia and the corrugated metal wall (negligible potential) • Hole allowing access into the soffits above the doors (negligible potential)	A flat roofed office building was situated within the main building. This comprised breeze block and had a 40-50 cm deep wooden fascia board. A single small gap formed where the wooden fascia was attached to a wooden batten was surveyed by torch. It was exposed, open and lit and was not suitable for bats.	• Negligible potential
Building B13 (Motorists Lounge)	A modern building which appeared to be built from prefabricated panels. The hipped roof was tiled with metal tiles and ridge tiles. There were prefabricated soffit boxes with ventilation grates on each elevation. The building is very brightly lit at night by spotlights associated with the ferry terminal. A number of potential features were noted including gaps in the soffits, a gap between the soffits and the wall. These features were surveyed in daylight and at night and discounted due to the extreme lighting of the building at night and the presence of undisturbed dirt around most of the PRFs indicating they had not been subject to ingress and egress of animals.	Suspended ceiling with a 40 cm gap to a second wooden ceiling.	• Negligible

Building Reference	External Description	Internal Description	Bat Roost Potential
Building B14 (Customs House)	A large building comprising a lower ground floor plus two storeys and a loft. *C.* 200 year old and constructed from stone and mortar. The roof was relatively complex with a central flat portion and hips at either end, orientated east-west, together with two small gable ends facing north and south located in the central portion of the building. The roof was covered with a mix of lead and slate. There was a parapet wall around the top of the building and this was separated from the roof structure by a leaded walkway. No PRFs were recorded.	The roof appeared to have recently been refurbished and comprised an iron structure overlain by a new wooden structure. A breathable roof membrane was present between the wooden roof structure and the roof covering.	• No further survey required
Building B15 (Sunderland House)	A large building comprising a basement plus two storeys, seven chimneys and two lofts. *C.* 150 - 200 years old and constructed from stone and mortar. The roof comprised two square structures. The roof was covered with slate together with lead roof ridges. There was a parapet wall around the top of the building. The following PRFs were recorded: • A 1 x 4cm gap was present around pipework in the central basement room on the southern elevation. The whole basement was fully inspected and no roosting bats, droppings or other evidence of bats were found.	The roof comprised two square structures and appeared to have recently been refurbished. The western frame comprised wood and the eastern frame comprised iron. The underside of the roof consisted of wooden sarking. Roof membrane was present between the wooden roof structure and the roof covering. The roofs were internally inspected and found to be very well sealed with no holes to the outside visible.	• No further survey required
Building B16	A modern structure comprising block walls with wooden fascia boards and barge boards used as a mechanics workshop. The pitched roof was covered with corrugated asbestos sheets. PRFs included gaps between the fascias and external wall, gaps between metal barge boards and	An internal office was situated within the main buildings. It had no PRFs.	• No further survey required

Building Reference	External Description	Internal Description	Bat Roost Potential
	corrugated wall, the exposure of the wall cavity on the southern elevation where a door had been installed and recently drilled holes on the eastern elevation for the installation of an extractor fan. All features were fully surveyed and no bats or evidence of bats was found.		
Building B17 (The Old Commodore Hotel)	A large building, *c* 20 m outside the southern site boundary, which has been extensively damaged by a fire and was not fully surveyed due to access restrictions. The building has two storeys and is *c*. 150 - 200 years old and constructed from stone and mortar. The roof was covered with slate.	The roof frame in the northern portion of the building was wooden.	• Known Greater Horseshoe Bat roost
Building B18	A large building, *c*. 150 - 200 year old and constructed from stone and mortar. The roofs were replaced 5 years ago. The building comprising a central portion of two storeys and two single storey portions on the north-east and south-east of the building. The central portion had two lofts under a pitched roof whilst there were further loft spaces under sloping roofs in the single storey elevations. They are constructed from slate with lead and some slates appeared to have slipped towards the northern end of the main roof. There was a parapet wall around the top of the main walls of the building. The roofs, eastern, southern and northern elevations are brightly lit at night by spotlights in the ferry terminal (negligible). PRFs in the single storey portions included a gap under slates on the southern elevation where two slates were missing, a gap in the apex between	The roof frame comprised metal and wood and a breathable roofing membrane had been installed under the slates. It was not possible to fully survey the main lofts due to a lack of access and *c*. 35% of the void was surveyed. No free-hanging bats or evidence of bats was identified. Due to the illumination of the roof at night the potential for roosting bats is considered to be low. The lofts above the single storey portions were fully surveyed. PRFs included gaps between masonry and gaps between the roof and the top of the wall. No bats or evidence of bats was identified.	• Low

Building Reference	External Description	Internal Description	Bat Roost Potential
	the roof and the wall on the northern elevation and several gaps where House Sparrows accessed below the slates. A 10 x 10 cm hole was present in the northern elevation at c. 8 m height and a House Sparrow was seen entering the feature. This offered potential access inside the western loft of the main building and was subject to light overspill from spotlights within the ferry terminal (low).		
Building B19 (Police Building)	A modern brick building with a tiled, hipped roof on the main building with plastic tight fitting fascias. At the western end there is a lean to with both a flat and sloping roof. Potential PRFs include several gaps under the ridge tiles. A 2 x 4 cm gap under a ridge tile on the sloping roof, on the northern elevation was investigated and found to be heavily cobwebbed. The building is very brightly illuminated at night by spotlights in the adjacent ferry terminal.	The roof is lined with wooden boards.	• Negligible
Building B20 (Mill Forge)	A large, disused building in a poor state of repair. Walls comprising 2 m of block with corrugated asbestos sheeting above. A dense growth of Hedera *helix* (Ivy) was present on the western elevation. The pitched roof comprised corrugated asbestos sheeting. Gaps between overlapping corrugated sheeting at the western end offered low PRFs for bats.	The frame was constructed from metal. Holes in the corrugated sheeting of the walls offered bats possible access points into the building. A gap *c.* 2 cm in height (low potential) was present under the asbestos gutter on the southern elevation, towards the western end of the building. Due to the height of the feature the depth could not be assessed.	• Low
Building B21 (Mill Forge)	A large, disused building in a poor state of repair. Walls comprising 2 m of block with corrugated asbestos sheeting above. *Hedera helix* (Ivy) was present on the south-western corner and western elevation. The pitched roof comprised	The frame was constructed from metal. Holes in the corrugated sheeting of the walls offered bats possible access points into the building.	• Low

Building Reference	External Description	Internal Description	Bat Roost Potential
	corrugated asbestos sheeting. A falling tree had created a large hole in the southern portion of the roof. Gaps between overlapping corrugated sheeting at the western end offered low PRFs for bats.		
Building B22	A small brick built building with metal fascia and barge boards used to store paint. The pitched roof has been covered with corrugated metal sheeting. Gaps between the barge boards and the wall were torched and no bats or evidence of bats was present.	The roof frame was made from metal.	• No further survey required
Building B23	A large modern warehouse. The walls are constructed from corrugated metal sheeting and block.	The roof frame was made from metal.	• No further survey required
Building B24	A small single storey brick built building with wooden fascia boards and a flat roof covered in roofing felt. Externally the walls have been rendered. Gaps were present between the fascia and the top of the wall, on the eastern and western side of the building. These were investigated with an endoscope and were found to be exposed and led into the well lit room. No bats were present and no evidence of bats was found.	The roof structure comprised wooden roof joists. There were gaps noted internally on the north and south aspects between the joists and the wall tops which were investigated with an endoscope and most were found to be cobwebbed. No bats were or evidence of bats was found.	• No further survey required
Building B25	A disused single storey building with wooden fascia boards. The roof comprises a pitched and flat roof. The pitched roof was covered with corrugated metal sheets with metal barge boards and was formerly used as offices. The flat roof was covered in roofing felt and housed a small boiler room. A louver door at the northern end of the boiler room provided a possible entry point	The roof frame was made from wood. A pitched portion of the roof comprises corrugated metal sheeting and is unsuitable for roosting bats due to fluctuations in the conditions within the void. A flat and flat portion of roof.	• No further survey required

Building Reference	External Description	Internal Description	Bat Roost Potential
	into the building however the room was lit by daylight and open to the elements. No bats were present.		
Building B26	An older building comprising walls of stone and mortar with soffit boxes of plastic/metal... The pitched roof was covered with slate. Gaps between the wall and the soffit box on the eastern and western elevations possibly led to a gap of unknown depth above the wall and offered a PRF for bats. A similar, larger feature is present in the southern and northern elevations and is less suitable but offers a PRF. In addition, a 30 x 30 cm hole in the southern gable end and a second hole below this offer PRFs.	The roof frame was made from metal. Internally the building was well sealed and offered no potential.	• Low
Building B27	A brick built building with a sloping corrugated metal roof. No PRFs present.	The roof structure comprised a wooden frame supporting a corrugated metal roof. The roof void was subject to the effects of changes to environmental conditions and on the day of survey was very cold and unsuitable for bats.	• No further survey required
Building B28	A building of brick or block with a pitched roof of corrugated metal sheets. A number of louvered windows on the northern and southern elevations offer access into the lower floor of the building however there were no bats present, or evidence of bats, and no PRFs were identified. No access was available to the roof void however the void could be viewed partially through grates on the gable ends. Light could be seen entering the roof void along the roof ridge suggesting that there were possible access points between the roof ridge and roof sheets. Additionally, there was potential for bats to access the roof void via	The roof appeared to have a wooden frame.	• Low

Building Reference	External Description	Internal Description	Bat Roost Potential
	gaps between the barge boards at the gable ends.		
Building B29	A brick built building with a very shallow, almost flat, pitched roof covered with roofing felt.	Air vents present on all elevations were torched and no bats or evidence of bats was present.	• No further survey required
Building B30	A building clad with corrugated metal sheet with a pitched corrugated metal roof with fibreglass roof lights. A hole was identified in the south-western corner of the building between the gutter and the roof structure. A possible bat dropping was located 25 cm into the hole and could not be recovered for analysis. The upper part of the hole was cobwebbed an It is likely the environmental conditions would fluctuate.	The roof frame was made from wood.	• Possible bat dropping; uncollectable • High
Building B31	A single storey modern building constructed of breeze block with wooden fascia boards and a pitched roof covered in corrugated asbestos sheets. The apex of the western and eastern gable ends have holes allowing possible access under the ridge and into the roof void also.	An internal survey of the roof void was not undertaken due to the possible presence of asbestos.	• Moderate
Building B32	A two storey brick built building with a pitched roof covered in corrugated metal sheets. A gap above a purlin on the southern elevation offers potential access under the metal roof. In addition, a number of further external PRFs were identified and following external and internal survey were discounted.	The roof frame was made from metal and wooden sarking was present below the metal roofing sheets.	• Low
Building B33	A small single storey building with walls constructed from breeze blocks and a sloping roof covered with corrugated asbestos and metal. A gap between a wooden beam and the wall on the western elevation contained dense cobwebs and no bats or evidence of bats.	The roof had a wooden frame. There was no lining below the corrugated sheeting of the roof.	• No further survey required

Building Reference	External Description	Internal Description	Bat Roost Potential
	Additionally, cracks in a brickwork pillar were surveyed by torch and were found to contain no bats and no evidence of bats and extended to a maximum depth of 5 cm. The building was generally draughty and had a large opening on the eastern elevation.		
Building B34	A stone built building in excess of 100 years old with a single storey and loft. The slate roof was hipped and had a leaded ridge together with wooden fascia boards. The roof was subject to illumination from spotlights within the ferry terminal. The flowing PRFs were identified: • A 2 x 3cm gap in the top right hand corner of a window on the northern elevation was surveyed via endoscope and found to extend at least 15 cm above and behind the lintel (moderate potential). • Two gaps 3 x 20 cm and 3 x 10 cm, respectively, were identified in the soffit box on the northern elevation and offered potential access to the inside of the soffit box (low potential). • Raised slates with gaps of up to 2 cm were present on the eastern elevation and offered potential access between the slates and the wooden sarking (low potential). • A number of external features were identified and following internal and external survey were of negligible potential.	The roof had a wooden frame and there was wooden sarking beneath the slate. There were two roof hatches which were permanently open allowing light to enter the space and the void was also draughty and cool. In addition dense cobwebs were present throughout the void and no bats, droppings or other evidence of the presence of bats was identified. The evidence suggested that the roof void is not currently used by bats.	• Moderate
Building B35	A dilapidated building with no roof. Several cracks in the wall were surveyed by torch. No	N/a	• No further survey required

Building Reference	External Description	Internal Description	Bat Roost Potential
	bats or evidence of bats was found and the cracks extended to a maximum depth of 6 cm.		
Building B36	A single storey brick and stone built building with a sloping roof covered with corrugated metal. Several PRFs were identified including a gap of 8 x 4 cm on the eastern elevation where the roof meets the southern elevation. This gap extends into the roof void allowing possible access for bats. The gap was only lightly cobwebbed.		• Low
Building B37	A single storey modern commercial building with corrugated metal walls and sloping roof. No PRFs were present	The roof had a metal frame. There was no lining below the corrugated sheeting of the roof.	• No further survey required
Building B38	A modern single storey, brick built building with plastic fascia boards, soffit box and bargeboards and a tiled pitched roof. Gaps were present where the soffit met the fascia board in the north-western corner, north-eastern corner, eastern and southern elevation. In addition, a gap in the gable end on the northern elevation possibly extended into the roof void offering a possible entry point to bats.	The roof had a metal frame. 2 possible bat droppings were found in the roof void towards the northern end of the building, however, no bats were found during the survey. Furthermore, no obvious roosting features were identified and the metal construction of the roof does not appear to lend itself to roosting bats. The droppings may represent evidence of exploration of the building by bats.	• Common Pipistrelle roost confirmed by DNA analysis:
Building B39	An older building constructed from stone, brick and mortar. The roof comprises two pitches and is covered in corrugated metal. The roof has a central raised section. There was dense *Hedera helix* (Ivy) growing on the south-western and north-western corner of the building. The flowing PRFs were identified: • A gap in the north-eastern corner potentially extends further above the wall (moderate potential).	The roof had a metal frame and there was wooden sarking beneath the corrugated metal roof. The flowing PRFs were identified: • Missing sarking boards on the northern gable end of the eastern pitch offer potential access behind the sarking (low potential) • Several cavities on the southern elevation extended up to 20 cm into the wall. They appeared to have been caused by the removal of the roof joists of a former floor.	• Moderate

Building Reference	External Description	Internal Description	Bat Roost Potential
	• A gap in the apex of the gable end of the easterly pitch may extend further above the wall (moderate potential). • A hole caused by damaged sarking on the northern elevation adjacent to the gutter between the pitches may extend under the roof (low potential). • A hole in the western elevation offers a potential access point to a small section of cavity in the wall. This was endoscoped and no bats were present (low potential). A number of other PRFs were surveyed and discounted.	They have the potential for hibernating bats (low potential).	
Building B40	A commercial building constructed of corrugated metal on the eastern and western elevations and stone and mortar on the northern and southern elevations. The roof comprised both pitched and flat portions and was covered in corrugated concrete sheets. No PRFs were present.	The roof had an unlined metal frame.	• Negligible
Building B41	An older building constructed from stone and mortar with wooden bargeboards on the eastern and western elevations and a wooden fascia on the southern elevation. The pitched roof was covered in corrugated asbestos sheets with fibreglass roof lights. The flowing PRFs were identified: • Gap between bargeboard and wall on the gable end of the eastern and western elevation. This extends to the top of the wall and may allow access above the wall (low potential).	The roof had an unlined metal frame. Not possible to survey internally because of a lack of access.	• Moderate (potential increased from low to moderate due to lack of internal access)

Building Reference	External Description	Internal Description	Bat Roost Potential
	• Raised roof ridge tiles on both sides of the ridge (low potential).		
Building B42	An older building constructed of brick. The southern elevation had been clad in corrugated steel sheets. The pitched roof was covered with corrugated metal sheets and the gable ends had metal bargeboards. The western and eastern elevations had plastic and wooden fascias respectively. Two holes were present in the northern elevation and offer bats potential access to the cavity wall.	The roof had a metal frame and there was a lining of plastic sheeting beneath the corrugated metal roof.	• Low
Building B43	A large modern industrial building with walls and roof constructed from bricks and corrugated metal. On the western elevation there were 2 gaps between the metal soffit box and the wall. Both were torched and no bats were present.	The roof had a metal frame. A breeze block structure in the south-east of the building had no potential.	• No further survey required
Building B44	A very large modern industrial building with lower walls constructed from block and the upper walls constructed from corrugated metal sheet. The roof was constructed from corrugated metal.	The roof had a metal frame. There were a number of small and large rooms within the main building. Two large storage rooms on the western elevation had a wooden fascia. A gap of 1 to 2 cm was present between the fascia and the wall offering a PRF for bats. There were several possible points for bats to enter the building and included a 10 x 20 cm, 15 x 20 cm and 40 cm diameter hole in the eastern elevation together with holes on either side of the pedestrian doorway.	• Low
Building B45	A small, single storey, semi-detached building constructed from brick with metal fascias attached to wooden fascias in places. The flat roof is covered in corrugated metal. The eastern elevation comprises a metal door. PRFs present were as follows:	Roof supported by metal joists. Entry to the interior of the building is possible via a hole above the door. Another possible entry point is via a 10 cm diameter hole on the western elevation, although this appeared to be almost completely blocked by stored material within the building. The	• Low

Building Reference	External Description	Internal Description	Bat Roost Potential
	• The plastic fascia has fallen away from building in the north-western corner of the building creating an 8 x 4 cm gap which extends into the interior of the building. At the same location there is another gap at the bottom of the fascia which was cobwebbed at the time of survey. • There are several gaps between the fascia and the wall on the northern elevation, which extend upwards possibly above the brickwork.	meeting point of the northern elevation wall and the roof had been cemented and was intact.	
Building B46	A small, single storey, semi-detached building constructed from brick with metal fascias attached to wooden fascias in places. The flat roof is covered in corrugated metal. The eastern elevation comprises a metal door. PRFs present were as follows: • There are several gaps between the fascia and the wall on the southern elevation, which extend upwards 10 cm to a gap above the wall. Some of the gap was surveyed by torch and/or endoscope however, it was not possible to survey these features entirely.	Roof supported by metal joists. The meeting point of the southern elevation wall and the roof had been cemented and was intact. Internally the building was divided by a new block work wall to form 2 rooms. The roof was well sealed.	• Low
Building B46A	A small, single storey, semi-detached building constructed from brick with metal fascias attached to wood in places. The sloping roof is covered in corrugated metal. A 20 x 4 x 4 cm gap formed by lifted flashing in the north-western corner of the building was surveyed by torch and endoscope there were no bats present.	The sloping roof was supported by wooden joists. Several entry points for bats were present on the eastern elevation where the brick wall meets the corrugated metal sheets of the roof. Further gaps, which were not suitable for bats, were present on the western elevation. The building was draughty and not suitable for bats.	• negligible
Building B47	A very small single storey, brick built building,	Disused toilet with no suitable roosting places for	• No further survey required

Building Reference	External Description	Internal Description	Bat Roost Potential
	formerly used an outside toilet. It had a flat concrete roof and had a covering of *Hedera helix* (Ivy) on the southern elevation. Small gaps between bricks were torched and extended 5 cm, no bats were present.	bats and no evidence of bats.	
Building B48	A single story, brick built, rendered building with plastic fascias and a pitched roof covered with corrugated metal sheets. There was a 2 cm wide and 15 cm long gap between a raised fascia and the eastern elevation wall in the south-eastern corner of the building. This was endoscoped however the structure of the feature could not be fully investigated.	Not possible to survey the building internally due to access restrictions however, the internal structure of the building could be assessed from the exterior via windows. The roof frame was made of metal with plastic sheeting underneath the corrugated sheeting. A number of droppings were visible on the bonnet of a car stored within the building. These were adjacent to some old food and were assessed as potentially being due to mouse but were possibly bat guano.	• High (due to lack of access to undertake an internal inspection and the possible presence of bat droppings)
Building B49	A recently refurbished single storey, brick built, rendered building with plastic fascias. The roof comprised a pitched portion on the main building covered in corrugated metal sheeting together with a tiled sloping roof on a lean to on the south-western elevation. A gap between the fascia and the wall on the north-eastern corner was investigated and found to be full of debris.	The roof frame was made of metal. The building was noisy and being used as a carpentry workshop. There was a small loft in the lean to section of the building and a breathable roofing membrane had been installed beneath the tiles.	• No further survey required
Building B50	A brick built building with plastic soffit boxes and tiled, hipped roof. There were missing covers on ventilation holes on the underside of the soffit box on all elevations at *c.* 3m in height. These would potentially allow bats direct access to the roof void although this would require vertical entry. All the roof and ridge tiles were well sealed.	The roof frame was made of wood and bitumen roofing felt had been installed under the tiles. There were no gaps in the bitumen felt. A single possible bat dropping was found within the loft space. The whole loft was searched and no bats were present.	• Brown Long-eared bat roost confirmed by DNA analysis
Building 51	A modern prefabricated portacabin with no	Prefabricated and no features present.	• Negligible

Building Reference	External Description	Internal Description	Bat Roost Potential
	potential for roosting bats.		
Building B52 (Additional Building)	External survey from the fence line within the site. A very old stone and mortar built tower with open doorways and unglazed windows which would offer access to the internal parts of the building. Externally the structure appeared to be in good condition. Located *c.* 10 m outside the site boundary and within the port wall on the northern side of Fort Road.	No access and therefore an internal building inspection was not undertaken.	• High

Table 5 displays the full results of the tree assessment for roosting bats.

Table 5: Tree Assessment for Roosting Bats

Tree Tag Reference	Tree Description	Potential Roosting Features (PRFs)	Bat Roost Potential
1965	Species: *Quercus ilex* (Evergreen Oak) Lifestage: Mature DBH: n/a, dead tree, fallen Height: n/a, dead tree, fallen	• A hazard beam at c. 2 m height orientated north-west / south-east. PRF surveyed by torch; no smoothing internally and a flat and nobbly surface, no bats.	• Low
1964	Species: *Quercus ilex* (Evergreen Oak) Lifestage: Mature DBH: 50 cm Height: 20m	• West facing, 4 x 4cm hole at base of tree. Torched; extended 5 cm upwards, cobwebbed no bats.	• Low
1963	Species: *Quercus ilex* (Evergreen Oak) Lifestage: Mature	• Tear-out on north-east stem at 5 m height (low potential).	• Moderate

Tree Tag Reference	Tree Description	Potential Roosting Features (PRFs)	Bat Roost Potential
	DBH: Multi-stemmed, splits into 3 stems at 1 m height; stems 60 cm, 80 cm and 60 cm respectively. Height: 18 m	• Tear-out on north-east stem at 4 m height (low potential). • Crack along horizontal beam (low potential). • 15 x 30 cm hole at base of southernmost limb. Extends 70 cm upwards. PRF surveyed with endoscope to its full extent; no bats (moderate potential).	
1962	Species: *Quercus ilex* (Evergreen Oak) Lifestage: Mature DBH: 1m Height: 25 m	• 5 x 5 cm hole at 20 m height on the northern side of the tree. Possible smoothing or scratch marks on bottom lip (moderate potential). • Hole at 1 m height on the northern side of the tree. PRF surveyed by torch; rough on inside, no bats (low potential).	• Moderate
1961	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: Multi-stemmed, splits into 2 stems at 1.5 m height; stems 60 cm and 60 cm respectively. Height: 25 m	• A north-facing 10 x 6 cm rot hole in a 20 cm diameter limb. May extend downwards. • 3 x 3cm north-westerly facing hole, slightly upwards facing and lit by flood lights. • Upwards facing tear out at 8 m height, with a 2 x 2 cm hole extending downwards. • Westerly facing tear out on at 8 m height. • 4 x 2 cm hole on dead branch at 15 m height.	• Low
1960	Species: *Fraxinus excelsior* (Ash) Lifestage: Mature DBH: 60 cm Height: 20 m Other: deadwood in crown. *Hedera helix* (Ivy)	• 15 x 15 cm hole in base of trunk facing in north-easterly direction. Extends upwards for more than 30 cm. PRF surveyed with endoscope to its full extent; no bats (moderate potential). • Several other PRFs noted including knot	• Moderate

Tree Tag Reference	Tree Description	Potential Roosting Features (PRFs)	Bat Roost Potential
	clad.	holes and a tear out hole (low potential).	
1959	Species: *Ilex aquifolium* (Holly) Lifestage: Semi-mature DBH: 15 cm Height: 6 m Other: Dense *Hedera helix* (Ivy) cover however not considered a constraint to survey	• No PRFs	• Negligible
1958	Species: *Fraxinus excelsior* (Ash) Lifestage: Mature DBH: 1.2 m Height: 18 m Other: Dense *Hedera helix* (Ivy) cover and some dead wood in the crown.	• A tear out with external dimensions of 40 x 6 cm and the hole extends upwards into the limb (high potential). • An occluded tear out wound with an 8 x 3 cm entrance hole, decreasing to *c.* 3 x 3 cm and potentially extending into the occlusion (moderate potential). • The remainder of the tree will need to be searched for PRFs when undergoes aerial survey.	• High
1957	Species: *Fraxinus excelsior* (Ash) Lifestage: Mature DBH: 80 cm Height: 18 m Other: Dense *Hedera helix* (Ivy) growth with thick stems at the base to a height of 4 m forming plates. Above this the *Hedera helix* (Ivy) is less dense and offers no suitable PRFs.	• A basal cavity on the northern side of the trunk was surveyed with an endoscope. Internally there is a 1 x 3 cm hole which appeared striated, dry and smoothed and an 8 x 8 cm hole which led into a 25 x 25 cm cavity which appeared dry, striated and un-smoothed. No bats or evidence of bats was found.	• Moderate
1956	Species: *Fraxinus excelsior* (Ash) Lifestage: Mature DBH: 1 m Height: 18 m	• An 8 x 8 cm hole at the end of a broken limb. Facing upwards at a 45° angle and afforded some cover from the tree above however, still likely to be exposed and appeared damp.	• Low

Tree Tag Reference	Tree Description	Potential Roosting Features (PRFs)	Bat Roost Potential
	Other: Clad in dead *Hedera helix* (Ivy) which was unsuitable for roosting bats. Some dead wood in crown.		
1955	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: 1.3 m Height: 18 m	• An upward facing 3 x 3 cm knot hole at 8 m height, with dark staining below the lower lip and which is likely to be wet and unlikely to extend downwards.	• Low
1954	Species: *Fraxinus excelsior (Ash)* Lifestage: Mature DBH: 1 m Height: 17 m	• An occluded, snapped off branch with a hole on either side of dead wood in the centre of the feature. The larger hole is located on the eastern side of the feature and is 5 x 5 cm in size. • An upward facing 3 x 3cm knot hole at 10 m in height appears which is unlikely to extend (low potential).	• Moderate
1953	Species: *Fraxinus excelsior* (Ash) Lifestage: Mature DBH: 60 cm Height: 15 m Other: *Hedera helix* (Ivy) cover over tree however did not act as a significant constraint to the survey.	• No PRFs noted	• Negligible
1952	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: 1.4 m Height: 20 m Other: Splits into 2 stems at breast height.	• A 4 x 6 cm occluded knot hole at 8 m in height. Does not extend upwards and appears unlikely to extend downwards	• Low
1951	Species: *Acer pseudoplatanus* (Sycamore)	• No PRFs noted.	• No further survey required

Tree Tag Reference	Tree Description	Potential Roosting Features (PRFs)	Bat Roost Potential
	Lifestage: Mature DBH: 1.5 m Height: 20 m Other: Splits into 3 stems just above breast height. *Hedera helix* (Ivy) forms plates between 1 and 4 m in height.		
1950	Species: *Fraxinus excelsior* (Ash) Lifestage: Mature DBH: 70 cm Height: 14 m Other: Dead wood in the crown. A moderate covering of *Hedera helix* (Ivy).	• An occluded tear out situated at a height of 6 m and with external dimensions of 40 x 10 cm. It appears likely that holes extend into the limb at either side of the tear out. • A tear out situated at a height of 8 m and with external dimensions of 50 x 10 cm. It appears likely that holes extend into the limb at either end of the tear out.	• Moderate
1949	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: 1.3 m Height: 22 m Other: Some dead wood in the crown. Moderately *Hedera helix* (Ivy) clad although this was not considered a constraint to the survey.	• No PRFs noted.	• No further survey required
1948	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Semi-mature DBH: 35 cm Height: 15 m	• No PRFs noted.	• No further survey required
1947	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Semi-mature DBH: 50 cm	• No PRFs noted.	• No further survey required

Tree Tag Reference	Tree Description	Potential Roosting Features (PRFs)	Bat Roost Potential
	Height: 15 m		
1946	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Semi-mature DBH: 40 cm Height: 18 m	• No low – high potential PRFs noted.	• No further survey required
1945	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: Splits into stems below breast height; 60 cm and 70 cm respectively Height:	• A 20 x 15 cm hole resulting from a large tear out on the north-western side of the trunk extends upwards into a stem with a diameter of 70 cm. Appears to enlarge internally into a hole with a diameter of 30 cm and which has a smooth, flat, unpolished surface with minor striations (high potential). • A 3 x 3 cm hole in a broken limb at 4 m in height potentially extends towards the main stem (moderate potential).	• High
1944	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: 90 cm Height: 18 m	• No PRFs noted.	• No further survey required
1943	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: Main stem divides at 1 m height into 5 stems, each stem *c.* 50 cm in diameter. Height: 18 m	• A 4 x 4 cm pruning wound at 8 m in height on the southern side of the tree appears to extend downwards.	• Low
1942	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: Main stem splits into 4 at 30 cm height, each stem *c.* 50 cm in diameter.	• A 3 x 4 cm, upward facing, partially occluded tear out was recorded at 5 m in height on the north-western limb (high potential). • Two 4 x 4 cm pruning wounds were recorded at 14 m in height on the south-western and	• High

Tree Tag Reference	Tree Description	Potential Roosting Features (PRFs)	Bat Roost Potential
	Height:	northern limbs respectively. These had the potential to extend downwards into the limb (low).	
1941	Species: *Tilia ×europaea* (Lime) Lifestage: Semi-mature DBH: 70 cm Height: 12 m	• No PRFs noted.	• No further survey required
1940	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: Main stem splits into 3 at base and stems are 70, 50 and 30 cm in diameter respectively. Height: 13 m	• No PRFs noted.	• No further survey required
1939	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Mature DBH: Main stem splits into 4 at 80 cm height and the stems are 45, 45, 15 and 15 cm in diameter respectively. Height: 13 m	• No PRFs noted.	• No further survey required
Additional tree (*Target Note 2*)	Species: *Acer pseudoplatanus* (Sycamore) Lifestage: Semi-mature DBH: Main stem splits into 2 and each stem IS *c.* 40 CM in diameter respectively. Height: 15 m	• 3 pruning wounds at 4 to 5 m height on the easterly limb which are 10, 8 and 4 cm in diameter respectively (moderate potential). • One 2 cm in diameter pruning wound on the east limb which may extend to a limited depth (low potential).	• Moderate