



Ground Level Tree Assessment for Roosting Bats

Land at Langstone Industrial
Park, Havant

November 2024

Ground Level Tree Assessment for Roosting Bats

Land at Langstone Industrial Park, Havant

06/11/2024

PRC Group
12 Warren Yard
Warren Park
Milton Keynes MK12 2NW

Document Control:

Project no.:		Project name:		
12747		Land at Langstone Industrial Park, Havant		
Version:	Written by:	Checked by:	Authorised by:	Date:
V1	Billie Clifford	Paul Carter	Richard Schofield	6 November 2024

This report has been prepared for the exclusive use of the commissioning party and may not be reproduced without prior written permission from Phlorum Limited.

All work has been carried out within the terms of the brief using all reasonable skill, care, and diligence.

No liability is accepted by Phlorum for the accuracy of data or opinions provided by others in the preparation of this report, or for any use of this report other than for the purpose for which it was produced.

Phlorum Limited

Southern Office: Unit 12, Hunns Mere Way, Brighton, BN2 6AH

T: 01273 307 167 E:W: www.phlorum.com

Contents

2.	Introduction.....	2
3.	Methodology	3
4.	Results	5
5.	Discussion and Recommendations	7
6.	Conclusions	10
7.	References	11

Appendices

Appendix A – Photographs

Appendix B – Survey Map

Appendix C – Legislation

Non-technical Summary

Phlorum Ltd was commissioned by PRC Group to carry out a Ground Level Tree Assessment (GLTA) regarding roosting bats of the trees that are to be removed as part of the proposed development of land at Langstone Industrial Park, Havant.

The main findings of the survey are as follows:

- 👁️ The data search (Hampshire Bat Group, 2024) returned recent (post-2009) records of bats from the genera pipistrelle (*Pipistrellus*), long-eared (*Plecotus*), myotis (*Myotis*), serotine (*Eptesicus*), noctule/Leisler's (*Nyctalus*), horseshoe (*Rhinolophus*), and barbastelle (*Barbastella barbastellus*) occurring within the 2km search area.
- 👁️ It is understood that four trees will be removed, and these were covered by the assessment.
- 👁️ T59, T60, and T61 were assessed as requiring further assessment, due to poor visibility, or inability to assess potential roosting features further from the ground. Potential roosting features were observed including thick stemmed ivy, knot holes, cracks and splits in major limbs, loose bark, and hollow cavities. No secondary evidence of use by bats was seen in any of the trees.
- 👁️ There was a complete absence of potential roosting features in T58, and this tree was assessed as having negligible potential to support roosting bats.
- 👁️ It is recommended that further (aerial) assessment is undertaken for T59 with respect to roosting bats, as visibility was poor so it could not be fully assessed from the ground.
- 👁️ It is understood that T60 and T61 are suffering from decay and will be removed as a health and safety emergency due to the proximity of the busy public footpath. It is therefore recommended that a precautionary approach, including soft-felling and an ecological watching brief, is adopted for their removal.
- 👁️ If bats are found during the tree works within any trees on the site that are to be removed, activities should cease immediately, and advice sought from a suitably qualified ecologist.
- 👁️ Bat boxes should be installed to provide additional roosting opportunities on the site and lighting should be controlled to minimise impact on any potential roosting or foraging bats.

1. Introduction

Background

- 1.1 Phlorum Limited was commissioned by PRC Group to undertake a Ground Level Tree Assessment (GLTA) regarding roosting bats of the trees that are to be removed as part of Masterplan Phase 2 which involves the construction of three buildings with associated parking and a new link road at Land at Langstone Industrial Park, Havant, PO9 1SA, (hereafter referred to as "the site").
- 1.2 As part of the assessment, a desktop review and a site visit were carried out. The results of which were used to assess the potential of the trees to support roosting bats, a protected species.
- 1.3 This report has been compiled in accordance with current guidelines (British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development, 2013 and CIEEM, 2017 and 2018).
- 1.4 It is understood that the proposed development is for the construction of three buildings along with associated parking, landscaping, and a new link road.

Site Description

- 1.5 The site lies directly below the A27 and Havant Bypass and is situated within the village of Langstone. Langstone is a part of the Borough of Havant, Portsmouth. 700m to the south is Southmoor Lake which feeds directly to the English Channel.
- 1.6 The site comprised buildings, hardstanding, amenity grassland, broad leaved semi-natural woodland, introduced shrub, scattered trees, standalone trees, ruderal vegetation and running water and a dry ditch.
- 1.7 The National Grid Reference for the centre of the site is SU 71280 05672. The survey area extended over approximately 16 hectares (ha).

2. Methodology

Data Search

- 2.1 Records for bats within a 2km radius of the site were obtained from the local bat group (Hampshire Bat Group, 2024).

Review of Previous Reports

- 2.2 The desk study has involved the review of the following previous report carried out for the site:
-  Preliminary Ecological Appraisal (Phlorum, 2022).

Personnel

- 2.3 The GLTA was carried out by Billie Clifford, an ecological consultant with over two years' professional survey experience and holder of a Bat Class Licence Level 1 CL17 (Ref: 2024-12251-CL17-BAT). The survey results and assessment was reviewed by Paul Carter (BSc (Hons), MBA, MCIEEM), an ecologist with over 20 years of experience of managing ecological and landscaping projects and holder of a Bat Class Licence Level 1 CL17 (Ref: 2020-44978-CLS-CLS), and by the project director Richard Schofield (BSc (Hons), MSc, CSJK, MCIEEM, MIEMA, CEnv), with over twenty years of experience in managing projects and holder of a Bat Class Licence Level 1 CL17 (Ref: 2021-51095-CLS-CLS).

Ground Level Tree Assessment

- 2.4 The ground-based assessment of the on-site trees that are to be removed or pruned was carried out on the 27th August 2024, in accordance with good practice guidelines (Collins, 2023). Weather conditions during the survey were still, dry, and mostly clear.
- 2.5 A total of four trees were included in this assessment. This has been guided by the Arboricultural Impact Assessment (SJ Stephens Associates, 2022). It has been proposed that four trees will be removed.
- 2.6 The assessment was carried out in line with current good practice guidelines for bat surveys for professional ecologists (Collins, 2023).
- 2.7 The inspection of the trees included a review of potential bat roost features, which include but are not limited to woodpecker holes; knot holes; rot holes; cracks/splits; ivy; partially detached flaky bark; and other hollows or cavities. The inspection also included a search for any secondary evidence of bats. Secondary evidence includes droppings, feeding remains, scratch marks, and oil and urine staining.
- 2.8 Any features that could potentially support roosting bats were viewed remotely from the ground using binoculars to assess suitability and identify signs of use.

2.9 The potential suitability of trees for roosting bats were assigned as:

-  **Negligible** – no features of suitability for roosting bats;
-  **PRF-I** – potential roosting feature(s) only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats; or
-  **PRF-M** – potential roosting feature(s) suitable for multiple bats and may therefore be used by a maternity colony.

2.10 The tree numbers used in this report are consistent with those given in the Arboricultural Impact Assessment.

Constraints

Data Search Constraints

2.11 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Bat Survey Constraints

- 2.12 Bats are mobile animals which can move roost sites both within and between years. It is possible that surveys carried out in August could miss roosts occupied earlier or later in the year. Detection of secondary evidence for small numbers of crevice-dwelling species can be difficult, for example where droppings accumulate within an inaccessible void.
- 2.13 The survey was carried out whilst the trees were in leaf, which can reduce visibility.
- 2.14 It is considered that the survey was sufficiently rigorous to assess the roosting potential of the trees for the purposes of this assessment.

3. Results



Data Search

- 3.1 The data search showed records of bats from the genera pipistrelle (*Pipistrellus*), long-eared (*Plecotus*), myotis (*Myotis*), serotine (*Eptesicus*), noctule/Leisler’s (*Nyctalus*), horseshoe (*Rhinolophus*), and barbastelle (*Barbastella barbastellus*) occurring within the 2km search area in the past 15 years.

Review of Previous Reports

- 3.2 The Preliminary Ecological Appraisal (Phlorum, 2022) noted that ivy cladding was observed on some of the trees at the site. The trees were not individually assessed during this survey, therefore it was recommended that a Preliminary Roost Assessment be carried out for any trees that were to be removed or pruned.

Ground Level Tree Assessment

Trees to be Removed

- 3.3 It has been proposed that four trees will be removed (T58, T59, T60, and T61). These were all assessed from ground level. The full results are provided in Table 3.1.
- 3.4 There was a complete absence of potential roosting features in T58. The tree lacked significant climbing ivy, cracks/splits, flaking bark, holes, or other cavities. No secondary evidence of use by bats was found. This tree was regarded as having **negligible** potential to support roosting bats.
- 3.5 The other three trees (T59, T60, and T61) were assessed as FAR (Further Assessment Required), due to poor visibility, or inability to assess potential roosting features further from the ground. Potential roosting features were observed including thick stemmed ivy, knot holes, cracks and splits in major limbs, loose bark, and hollow cavities. No secondary evidence of use by bats was seen in any of the trees.

Table 3.1: Ground Level Tree Assessment Summary – Trees to be Removed

Tree/Group Number	Species	Height (m)	Age Class	Roosting Potential	Potential Roosting Features (PRFs)
T58	Norway maple	13	Mature	Negligible	None
T59	White willow	20.5	Mature	FAR	Dense ivy Visibility poor
T60	White willow	16	Mature	FAR	Loose bark Hollow cavities

Tree/Group Number	Species	Height (m)	Age Class	Roosting Potential	Potential Roosting Features (PRFs)
					Visibility poor
T61	White willow	14	Mature	FAR	Knot holes Cracks and splits in major limbs Dense ivy

4. Discussion and Recommendations

- 4.1 The survey site is located at land at Langstone Industrial Park, Havant. The site area extends over approximately 1.8 hectares (ha). A total of four trees were included in the ground level tree assessment. These have been assessed for their potential to support roosting bats.
- 4.2 Current proposals are for the construction of three buildings with associated parking and a new link road.
- 4.3 Three of the trees (T59, T60, and T61) were assessed as requiring further (aerial) assessment, due to poor visibility and presence of potential bat roosting features that could not be fully assessed from the ground. Potential roosting features included dense ivy, knot holes, cracks and splits in major limbs, loose bark, and hollow cavities. No secondary evidence of use by bats was seen in any of the trees.
- 4.4 It was therefore recommended that the trees are climbed and assessed further by a suitably qualified person. However, it is understood that two of these trees (T60 and T61) were suffering from decay and need to be removed as a health and safety emergency due to the proximity of the busy public footpath. The decay may also mean these trees are not safe to climb. Therefore, it is recommended that T60 and T61 are soft felled under the watching brief of a suitably qualified ecologist.
- 4.5 The remaining tree to be removed (T58) was found to have negligible potential to support roosting bats due to a complete absence of potential roosting features.
- 4.6 If bats are found during the tree works within any trees on the site that are to be removed or pruned, activities should cease immediately, and advice sought from a suitably qualified ecologist.
- 4.7 It is recommended that bat boxes should be installed on the site to provide additional roosting opportunities.
- 4.8 It is recommended that the illuminating of the site boundaries with artificial lighting is avoided.
- 4.9 Details regarding the recommended further assessment, precautionary approach, habitat enhancement, and lighting measures are provided below.

Further Assessment

- 4.10 It is recommended that T59 is climbed by a suitably qualified person to assess its suitability for roosting bats. The tree will be assessed on the presence and extent of potential roosting features and whether these could support individuals or large numbers of bats.

Precautionary Approach

- 4.11 Bats receive protection under The Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (as amended).
- 4.12 A precautionary approach to the removal of T60 and T61 is recommended.

- 4.13 It is recommended that these trees are removed outside of the hibernation period when bats are considered least vulnerable. The hibernation period is taken to run between mid to late November and mid-March, weather dependant.
- 4.14 A suitably experienced ecologist should oversee the removal of these trees and groups. On arrival to the site the ecologist will re-inspect the trees to look for evidence of roosting bats. An on-site assessment can then be made by the ecologist regarding the likelihood that any roosts are present.
- 4.15 The ecologist will then discuss the stages of the tree removal works with the on-site contractors and will oversee and guide these works for T60 and T61.
- 4.16 A 'soft-felling' technique will be followed for the removal of these trees, under a watching brief by the suitably qualified ecologist. This involves removing the top branches first and then working down the tree, removing it in sections. If any potential roosting features, such as cavities, holes, or cracks, are identified during the process, these sections will be lowered carefully using ropes to ground level. Each section should be laid on the ground with the potential roosting feature facing upwards to give roosting bats an opportunity to vacate the tree. Cutting through cavities should be avoided.
- 4.17 If bats are subsequently found during the tree works, within any trees on the site that are to be removed, activities should cease immediately, and advice sought from a suitably qualified ecologist.
- 4.18 Where a roost is likely to be impacted by the removal works, and where avoidance is not possible, it may be necessary to obtain a European Protected Species Mitigation (EPSM) Licence before the removal works can proceed and to complete any necessary mitigation.
- 4.19 Such a licence would need to be obtained from Natural England once full planning permission is in place. The application will require the drafting of a detailed mitigation strategy including timing and felling methods in addition to the mitigation measures proposed. Natural England currently require 30 working days to determine a licence application.

Habitat Enhancement

- 4.20 Additional roosting opportunities should be incorporated into the final design to enhance the site for roosting bats post works. This should include the installation of bat boxes, such as the Schwegler 1FF bat box, located on mature trees around the site and/or the buildings. These should be orientated with a south, southeast, or southwest aspect and located at least 3m from ground level.
- 4.21 It is recommended that new native trees and hedgerows are planted as part of the proposed development. Once established, these should provide habitat for foraging and/or roosting bats.

Bats and Lighting

- 4.22 Different species of bat have been found to react differently to night-time lighting. However, research has found that generally all species of bats are sensitive to artificial lighting and that excessive lighting can delay bats from emerging, thus shortening the time available for foraging, as well as causing individuals to move away from suitable foraging grounds or roost sites to alternative dark areas (Jones, 2000). Bats can also become isolated from their foraging grounds if the linear features they use for commuting are suddenly illuminated, creating a light barrier (Fure, 2006).
- 4.23 New development provides the opportunity to enhance the site's value for foraging bats and to minimise indirect impacts from lighting associated with the new development. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management 2006, Institute of Lighting Professionals 2018):
-  The level of any artificial lighting including flood lighting should be kept to a minimum, particularly around trees and other vegetated habitat;
 -  LED lights are a preferred option to low pressure sodium lights or high-pressure sodium or mercury lamps. LED lights do not emit UV radiation, towards which some insects are attracted, drawing them away from bat foraging areas in the surrounding landscape;
 -  All lights should be directed at a low angle with minimal light spillage wherever possible;
 -  Ideally the site boundaries should be kept dark, preferably at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g. 1.5 hours after sunset and 1.5 hours before sunrise);
 -  Artificial lighting should not directly illuminate any potential bat commuting areas such as trees and linear features. Similarly, any newly planted linear features or buffer areas around the site boundary should not be directly lit; and
 -  If security lights are required, then they will be set on a Passive Infrared (PIR) sensor and timer so that the light is only emitted for the short time period required.

5. Conclusions

- 5.1 A Ground Level Tree Assessment was undertaken at land at Langstone Industrial Park to identify the potential for roosting bats to be utilising the on-site trees that are to be removed as part of the proposed development. A total of four trees were included in the assessment which are to be removed (or partially removed in the case of tree groups). This had been guided by the Arboricultural Impact Assessment.
- 5.2 Three of the trees were assessed as requiring further assessment due to poor visibility or presence of potential bat roosting features that could not be fully assessed from the ground. These were T59, T60, and T61.
- 5.3 The remaining tree that is to be removed (T58) was found to have negligible potential to support roosting bats due to a complete absence of potential roosting features.
- 5.4 It is recommended that a precautionary approach, including soft-felling and an ecological watching brief, is adopted for the removal of the trees that need to be removed as a health and safety emergency (T60 and T61).
- 5.5 If bats are found during the tree works, within any trees on the site that are to be removed or pruned, activities should cease immediately and advice sought from a suitably qualified ecologist.
- 5.6 It is recommended that T59 is climbed so the potential roosting features can be fully assessed.
- 5.7 Bat boxes should be installed to provide additional roosting opportunities on the site, either on mature trees or the buildings, and lighting should be controlled to minimise impact on any potential roosting or foraging bats.

6. References

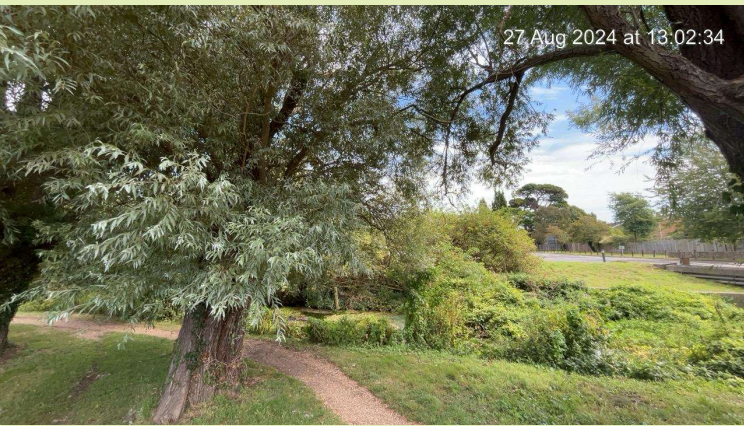
-  Bat Conservation Trust (2014). Interim Guidance: Artificial lighting and wildlife - Recommendations to help minimise the impact of artificial lighting [online]. Available from: http://www.bats.org.uk/publications_download.php/1330/BCT_Interim_Guidance_Artificial_Lighting_June_2014.pdf.
-  BCT and ILP. (2018). Guidance Note 8 Bats and artificial lighting - Institution of Lighting Professionals. [online] Available from: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>. BCT and ILP.
-  Bird Brick Houses Ltd (2013). Homes for bats and birds [on-line]. Available from: <http://birdbrickhouses.co.uk/>.
-  Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.
-  Fure, A. (2006) Bats and lighting. The London Naturalist, No. 85.
-  Hampshire Bat Group (2024). 2km Bat Data Search for Land at Langstone Industrial Park, Havant. Unpublished data for Phlorum.
-  Hundt L (2012). Bat Surveys: Good Practice Guidelines 2nd Edition. London: Bat Conservation Trust.
-  Mitchell-Jones, T. & McLeish, A.P (2004). The Bat Workers' Manual (3rd Ed). Joint Nature Conservation Committee, Peterborough, UK.
-  Natural England (2015). Standing advice for local planning authorities to assess impacts of development on bats: Survey and Mitigation for development projects. [online]. Available from: <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects>.
-  Phlorum (2022). Preliminary Ecological Appraisal – Langstone Industrial Park. Unpublished report by Phlorum Ltd.
-  Schwegler (2016). Bird and Nature Conservation Products [on-line]. Available from: http://www.schwegler-natur.de/pdf/Katalog/CatalogueEN_HQ.pdf.
-  SJ Stephens Associates (2022). Arboricultural Impact Assessment – Langstone Industrial Park. Unpublished report by SJ Stephens Associates.

Appendices

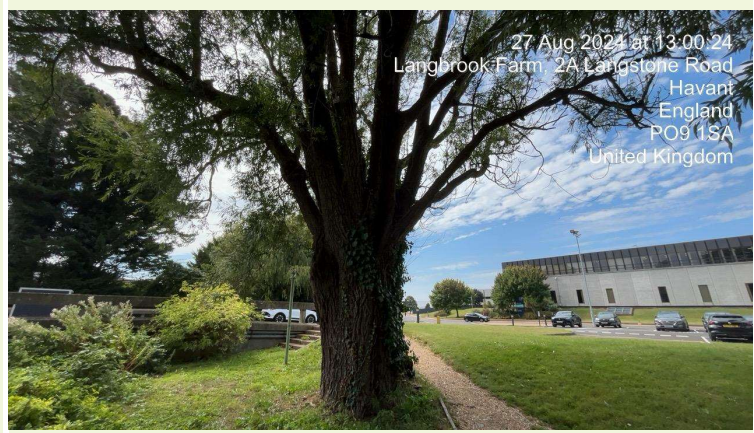
Appendix A

Photographs

Photographs

Feature	Photograph of Feature
T58 had negligible bat roosting potential.	
T59 was assessed as requiring further assessment. Visibility was poor and thick stemmed ivy was present.	
T60 will be soft felled under an ecological watching brief. Potential roosting features were present, including knot holes, cracks and splits in major limbs, and thick stemmed ivy.	

T61 will be soft felled under an ecological watching brief. Visibility was poor and potential roosting features were present, including loose bark and hollow cavities.



Appendix B

Ground Level Tree Assessment Survey Map

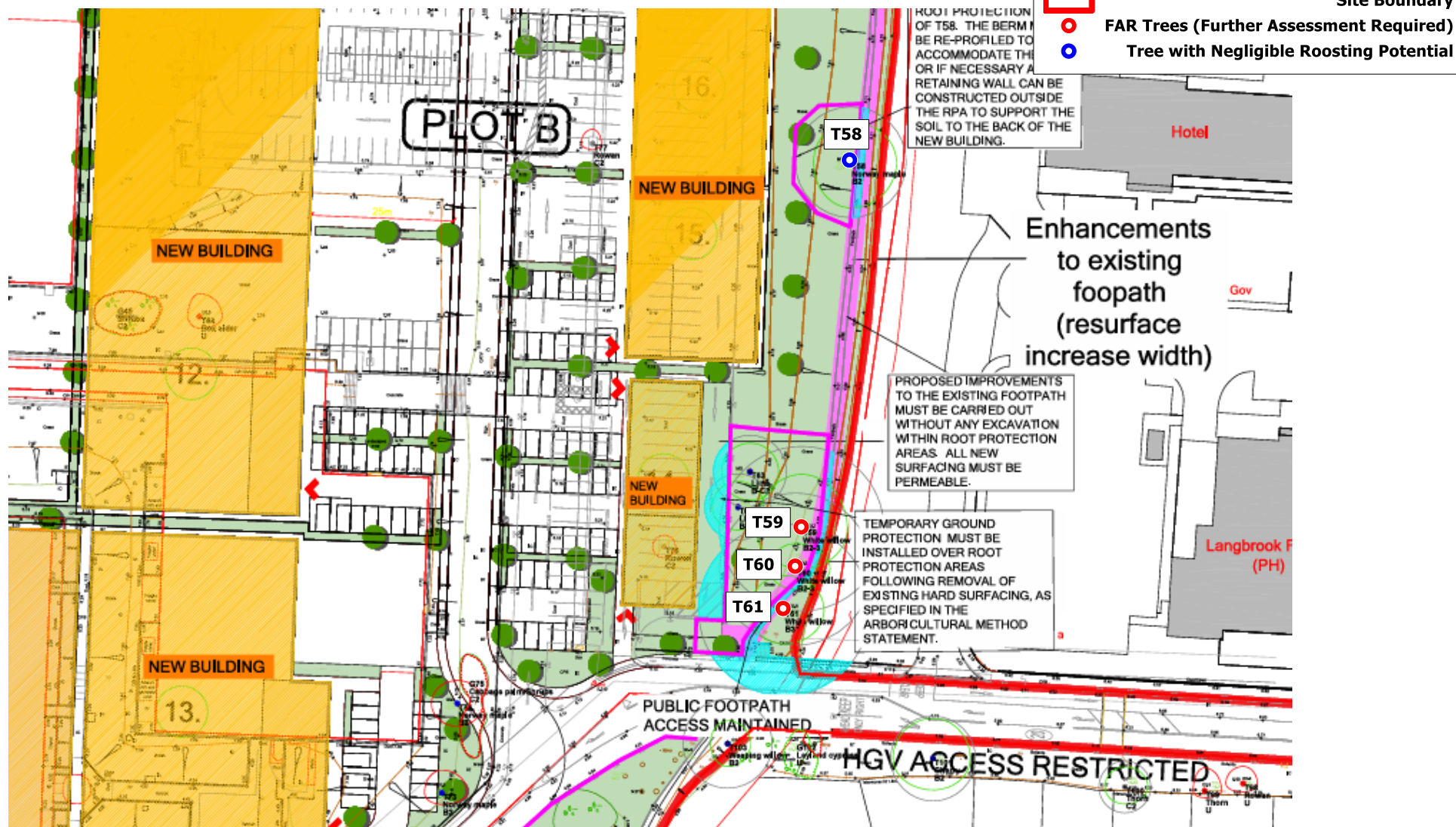


Figure 1: Langstone Industrial Park GLTA Map

Drawn by: BC
 On the: 01/11/2024
 Not to Scale
 Ref: 12747



Phlorum Limited, 12 Hunns Mere Way,
 Woodingdean, Brighton, East Sussex,
 BN2 6AH
 Tel: +44(0)1273 307167
 Web: www.phlorum.com
 Email: info@phlorum.com

Appendix C

Legislation

Legislation

This section contains information pertaining to the legislation and planning policy applicable in Britain. This information is not applicable to Northern Ireland, the Republic of Ireland the Isle of Man or the Channel Islands. Information contained in the following appendix is provided for guidance only.

Species

The objective of the EC Habitats Directive¹ is to conserve plants and animals which are considered to be rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and also implements the obligations set out for species protection from the Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Various amendments have been made since the Wildlife & Countryside Act came into force in 1981. Further details pertaining to alterations of the Act can be found on the following website: www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CROW) Act (2000) and Nature Conservation (Scotland) Act 2004.

There are a number of other legislative Acts affording protection to species and habitats. These include:

-  Countryside and Rights of Way (CROW) Act 2000;
-  Deer Act 1991;
-  Natural Environment & Rural Communities (NERC) Act 2006;
-  Protection of Badgers Act 1992; and
-  Wild Mammals (Protection) Act 1996.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

-  intentional or reckless disturbance (at any level);
-  intentional or reckless obstruction of access to any place of shelter or protection;
- and

¹ Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

-  selling, offering or exposing for sale, possession or transporting for purpose of sale

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

-  deliberate killing, injuring or capturing of Schedule 2 species (all bats);
-  deliberate disturbance of bat species as to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.
-  deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
-  damage or destruction of a breeding site or resting place; and
-  keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.



Phlorum Limited

Head Office & Registered Office:

Unit 12
Hunns Mere Way
Woodingdean
Brighton
East Sussex
BN2 6AH
T: 01273 307 167

Northern Office:

Ground Floor
Adamson House
Towers Business Park
Wilmslow Road
Didsbury
Manchester
M20 2YY
T: 0161 955 4250

Western Office:

One Caspian Point
Pierhead Street
Cardiff Bay
Cardiff
CF10 4DQ
T: 029 2092 0820

info@phlorum.com
www.phlorum.com

Registered in England & Wales. Reg No. 4967256