

LAND AT MODEL FARM, PORT ROAD, RHOOSE

Technical Note: The Protection of Ancient Woodlands



JSL3282_775
Land at Model Farm,
Port Road,
Rhoose
-
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Quality Management

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Appendix B Tree Survey with Masterplan Overlay JSL3282_700B

Appendix C Example Tree Protection Barrier (BS5837:2012 Fig. 2 & 3)

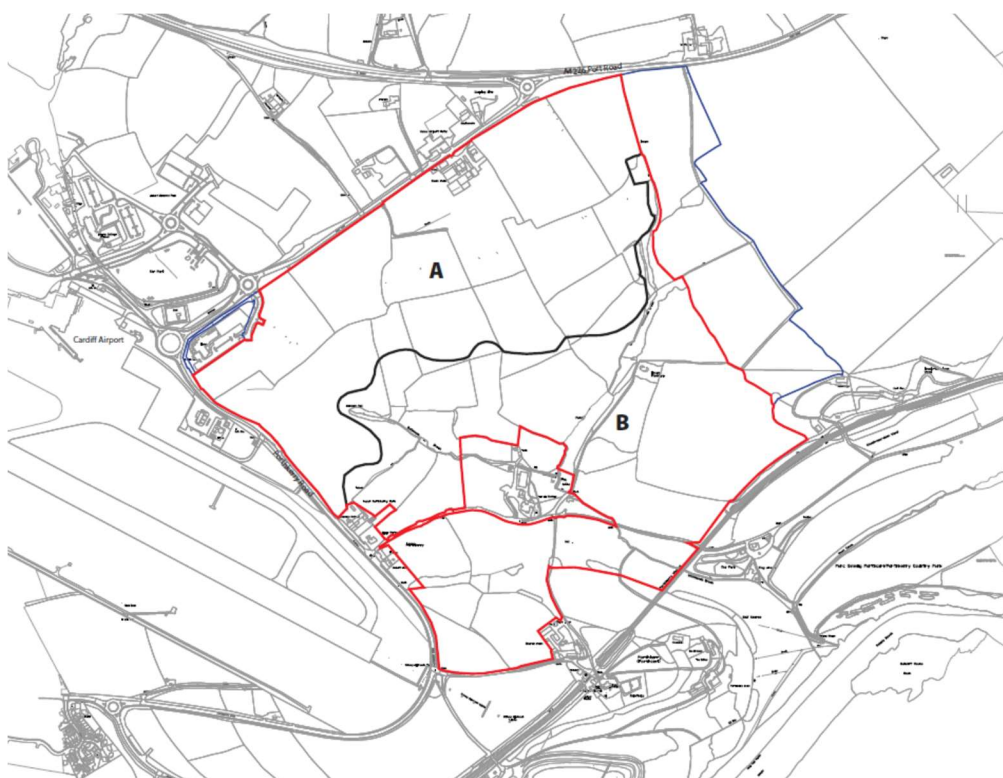
Appendix D Construction Exclusion Zone (CEZ) Signage

1 INTRODUCTION

- 1.1 This Technical Note has been prepared by RPS on behalf of Legal & General (Strategic Land) Ltd in respect to the development of the Model Farm, Port Road, Penmark, Barry, CF62 3BT.
- 1.2 The purpose of this note is to highlight any Ancient Woodland present on site and to outline the possible buffer zones and protective measures that will likely be required to mitigate any potential damage to them.

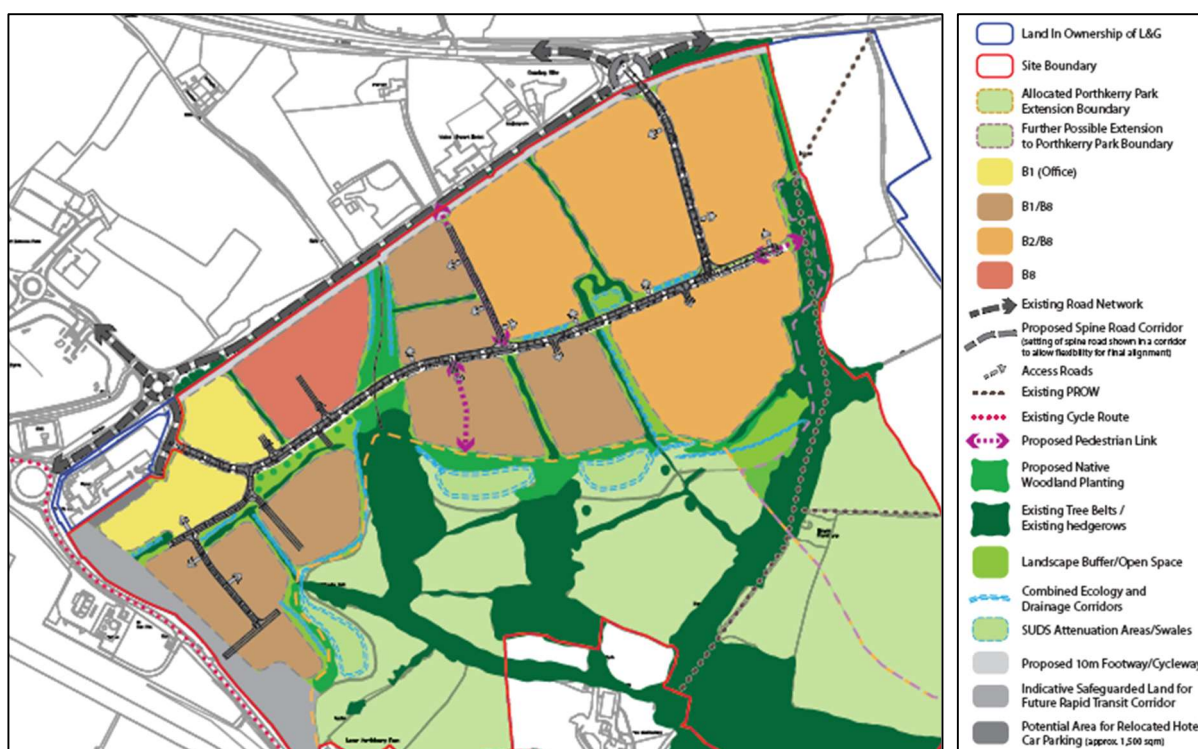
2 THE SITE

- 2.1 The survey site consists of a series of agricultural fields with dividing hedgerows, shelterbelts of trees to the north, grazed grassland and woodland belts, located south of Model Farm, Port Rd, Barry, CF62 3BB Wales. It is located near Cardiff Airport, on the immediate opposite side of Porthkerry Road and to the south of Port Road.
- 2.2 The wider landscape is semi-rural with mainly agricultural fields. A small village, Porthkerry to the south, Rhoose to the southwest and a small village called Barry to the east.
- 2.3 To the south of the site is a valley with wooded sides that stretches down towards Porthkerry Viaduct.
- 2.4 The site is split into two parts, as illustrated on the site location plan below. The business park development parcel is shown as 'Area A', with land to form an extension to Porthkerry Country Park shown as 'Area B'.



3 PROPOSED DEVELOPMENT

- 3.1 This is a hybrid application for outline planning permission for a 44.75 ha business park on the northern part of the site (shown as 'Area A'), with all matters reserved apart from access. The outline proposals would (subject to reserved matters) include works such as car parking, landscaping, drainage infrastructure, ecological mitigation and all other ancillary works. The application also seeks full planning permission for the change of use of the southern part of the site (shown as 'Area B') from agricultural land to recreational open space, to form an approximate 48 ha extension to Porthkerry Country Park.
- 3.2 The location, points of access, and an indicative layout are illustrated in the below extract of the site masterplan which can be found in Appendix A:



4 ANCIENT WOODLANDS

Overview

- 4.1 The woodland trust defines an Ancient Woodland as follows:
- “Ancient woods are areas of woodland that have persisted since 1600 in England and Wales, and 1750 in Scotland. This is when maps started to be reasonably accurate so we can tell that these areas have had tree cover for hundreds of years. They are relatively undisturbed by human development. As a result, they are unique and complex communities of plants, fungi, insects and other microorganisms.”¹*
- 4.2 Ancient woodlands are protected within paragraph 180 (c) of the National Planning Policy Framework², and their protection is a considered an important determining factor when granting planning permission.
- 4.3 The recognised guidance which relates to the protection or ancient woodland in Wales is detailed within the Natural Resources Wales website in the section ‘Advice to planning authorities considering proposals affecting ancient woodland’³.
- 4.4 This guidance stipulates that development buffer zones around ancient woodlands should be ‘appropriate’ and determined according to the specific nature of the proposed developments and its possible impacts (direct or indirect) upon the woodland habitat.

Ancient Woodland on Site

- 4.5 A desktop investigation of the site and its environs using the Lle Map Browser⁴, showed that there are two Ancient Semi-Natural Woodlands (ASNW) within the proposed development area as illustrated below in an extract from Appendix B (Tree Survey with Masterplan Overlay).



¹ <https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/habitats/ancient-woodland/>

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

³ <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/our-role-in-planning-and-development/advice-to-planning-authorities-considering-proposals-affecting-ancient-woodland/?lang=en>

⁴ <http://lle.gov.wales/catalogue/item/AncientWoodlandInventory2021/?lang=en>

- 4.6 A Tree Survey of the proposed development area was commissioned by Legal & General (Strategic Land) Ltd and undertaken by RPS on the 3rd of April 2019.
- 4.7 The Western of the two designated ancient woodland areas falls within the surveyed group G8. This is adjacent to development areas 'A' & 'B', and the northern half is situated between two areas proposed as class B2/B8 land use.
- 4.8 The Eastern of the two woodland areas falls partially within the surveyed group G9. It is only situated within development area 'B'.

5 PROTECTION/ DAMAGE MITIGATION

Overview

- 5.1 Having identified two Ancient Semi-Natural Woodlands (ASNW) on site, it is important to insure they have adequate protection from any proposed development.
- 5.2 This section will outline possible protective measures that may be necessary as the development progresses however as the development is currently only at the 'Outline' masterplan stage, protection measures and buffer zones cannot be fully specified and will need to be re-assessed at each stage of the development process.
- 5.3 Each development, and its immediate land uses abutting ancient woodlands will have differing affects upon the woodland and its habitats. For example, a car park, the rear elevation of a light industrial unit or area of surface SUD's attenuation will all have differing impacts upon a woodland, should they be located adjacent to it.

Buffer Zones

- 5.4 A stand-off or 'buffer zone' is used to protect ancient woodland. It is an area of land around an Ancient Woodland that is considered a Construction Exclusion Zone and in which no formal development (Buildings, roads, car parks, etc..) should take place, some soft landscaping works, however, may be acceptable (SuDS, Attenuation Basins, etc..). The size and type of stand-off zone should vary depending on the scale, type and impact of the development.
- 5.5 As the development is currently in the 'Outline' stages of development it is not yet known what type of impact the development will bring. This should be re-assessed at each stage of planning and design and an appropriate buffer zone determined. The illustrative masterplan does include reference to a green buffer zone already, albeit its details and extents would be reserved for all detailed design stages.
- 5.6 As a minimum however, we would always ensure a buffer zone suitable to negate any direct harm to trees and woodland is provided. In normal cases this distance is determined by the root protection area of the trees (RPA).
- 5.7 Where any proposed development would be in close proximity to the buffer zone, a physical fence line will be erected, in accordance BS5837:2012⁵, to ensure the Construction Exclusion Zone (CEZ) is maintained and that there is no access into the buffer zone. Examples of CEZ fencing can be seen in Appendix C.
- 5.8 The positioning of this fencing will be detailed on the Tree Protection Plan and Copies of this shall be placed in the site office for reference by all site staff.
- 5.9 Signs detailing the purpose of the protective barrier shall be attached to the barriers at 10m intervals. Such signs should be weatherproof and shall be substantially in the form of the specimen provided at Appendix D. Signs must be replaced as necessary should they be removed or become illegible.
- 5.10 Following erection of the protective barriers and prior to commencement of the development it is recommended that an inspection of the site, by either the Council's Tree Officer or the Arboricultural Consultant, is arranged to confirm fencing has been installed in accordance with the Tree Protection and Removal Plan and that any relevant arboreal conditions attached to the planning consent have been met.

⁵ BS5837:2012. Trees in relation to design, demolition and construction – Recommendations. British Standards Publication

Further Impact Assessment

- 5.11 An Arboricultural Impact Assessments (AIA) has been produced for the Outline planning application, however, as part of the development process, the arboricultural impacts of the development should always be re-considered and updated whenever a new more detailed site layout is proposed.
- 5.12 This includes but is not limited to, Updated BS5837 Tree surveys, Updated Arboricultural Impact Assessments and Updated Plans (Tree Constraints Plans, Tree Protection & Removal Plans, etc...)
- 5.13 As detailed designs and planning applications progress, suitable new Arboricultural Impact Assessments (AIA) should be produced, to define and protect applicable buffer zones to the ancient woodlands in each given situation.

Assessing Air Quality Impact

- 5.14 “New developments should not lead to further degradation of ancient woodland sites resulting from significant increases in concentrations and total nitrogen deposition. In recent years, we have seen an increase in planning applications for ammonia-emitting developments, such as intensive livestock units, in close proximity to sensitive sites.⁶”
- 5.15 The main type of developments & activities that release ammonia are listed below:
- Poultry, Pig, Dairy & Beef Farming
 - Slurry stores
 - Land spreading
 - Anaerobic digestion and associated activity
 - Use of urea for nitrogen oxide reduction
- 5.16 As the proposed development is all B1, B2 or B8, it will not include any of these high ammonia producing developments. It may however include businesses that still produce smaller amounts of ammonia.
- 5.17 At this stage of development, detailed assessment of the potential impact as unquantifiable as we do not yet know the specific businesses that will be proposed on site. This impact will, however, be assessed once specific plans have been made.

Limiting Human Impact

- 5.18 It is important to limit the human impact of any new development, be it direct, such as increased recreational foot traffic through the woodland, or indirect, such as domestic cats hunting in the woodland. As the proposed development does not include any residential dwellings, the human impact of the development will be limited.
- 5.19 Where ‘Area B’ of the development is a proposed extension to Porthkerry Country Park. This may bring increased foot traffic to the area. This could be mitigated by strategic planting of trees & shrubs and/or the erection of fencing to keep people away from these areas.
- 5.20 New footpaths should be directed away from the Ancient Woodlands on site and any existing footpath layouts should be reviewed to ensure any increased foot traffic is kept away.

⁶ <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/advice-for-developers/how-to-avoid-or-reduce-effects-of-a-development-on-ancient-woodland/?lang=en>

Mitigation

5.21 Alongside any other protective measures, the use of mitigation measures may also be prudent. This will depend on the development and its potential adverse effect but could include:

- improving the condition of the woodland by sympathetic management e.g. removal of non-native coniferous trees to improve functioning of ancient woodland;
- putting up screening barriers within the development itself to protect woodland or ancient and veteran trees from aerial emissions such as dust and pollution;
- noise or light reduction measures such as directional lighting and acoustic fencing to reduce the risk of disturbance to mammals and nesting birds;
- rerouting footpaths to avoid damage to ancient woodland flora and disturbance to wildlife;
- removing invasive species to protect the functioning of the ancient woodland ecosystem;

6 CONCLUSION

- 6.1 This Technical Note has been prepared by RPS on behalf of Legal & General (Strategic Land) Ltd in respect to the development of the Model Farm, Port Road, Penmark, Barry, CF62 3BT.
- 6.2 The purpose of this note is to highlight any Ancient Woodland present on site and to outline the approach to buffer zones and protective measures that will be used to mitigate any damage to them.
- 6.3 The recognised guidance which relates to the protection of ancient woodland in Wales is detailed within the Natural Resources Wales website in the section 'Advice to planning authorities considering proposals affecting ancient woodland'.
- 6.4 A desktop investigation of the site and its environs using the Lle Map Browser, showed that there are two Ancient Semi-Natural Woodlands (ASNW) within the proposed development area.
- 6.5 A stand-off or 'buffer zone' is used to protect ancient woodland. It is an area of land around an Ancient Woodland that is considered a Construction Exclusion Zone and in which no development should take place. The size and type of stand-off zone should vary depending on the scale, type and impact of the development.
- 6.6 As a minimum we would always ensure a buffer zone would avoid any direct harm to tree's root systems or aerial canopies.
- 6.7 An Arboricultural Impact Assessments (AIA) has been produced for the Outline planning application, however, as part of the development process, the arboricultural impacts of the development should always be re-considered and updated whenever a new more detailed site layout is proposed.
- 6.8 As the proposed development is all B1, B2 or B8, it will not include any of the high ammonia producing developments listed in section 5.15. It may however include businesses that still produce smaller amounts of ammonia.
- 6.9 At this stage of development, detailed assessment of air quality impact is unquantifiable, as we do not yet know the specific businesses that will be proposed on site. This impact will, however, be assessed once specific plans have been made.
- 6.10 It is important to limit the human impact of any new development, as the proposed development does not include any residential dwellings, the human impact of the development will be limited.
- 6.11 Alongside any other protective measures, the use of mitigation measures may also be prudent. This will depend on the development and its potential adverse effect.
- 6.12 The development is currently only at 'Outline' masterplan stage and as such, detailed buffer zones and protection measures cannot be fully specified and will need to be re-assessed at each stage of the development process.

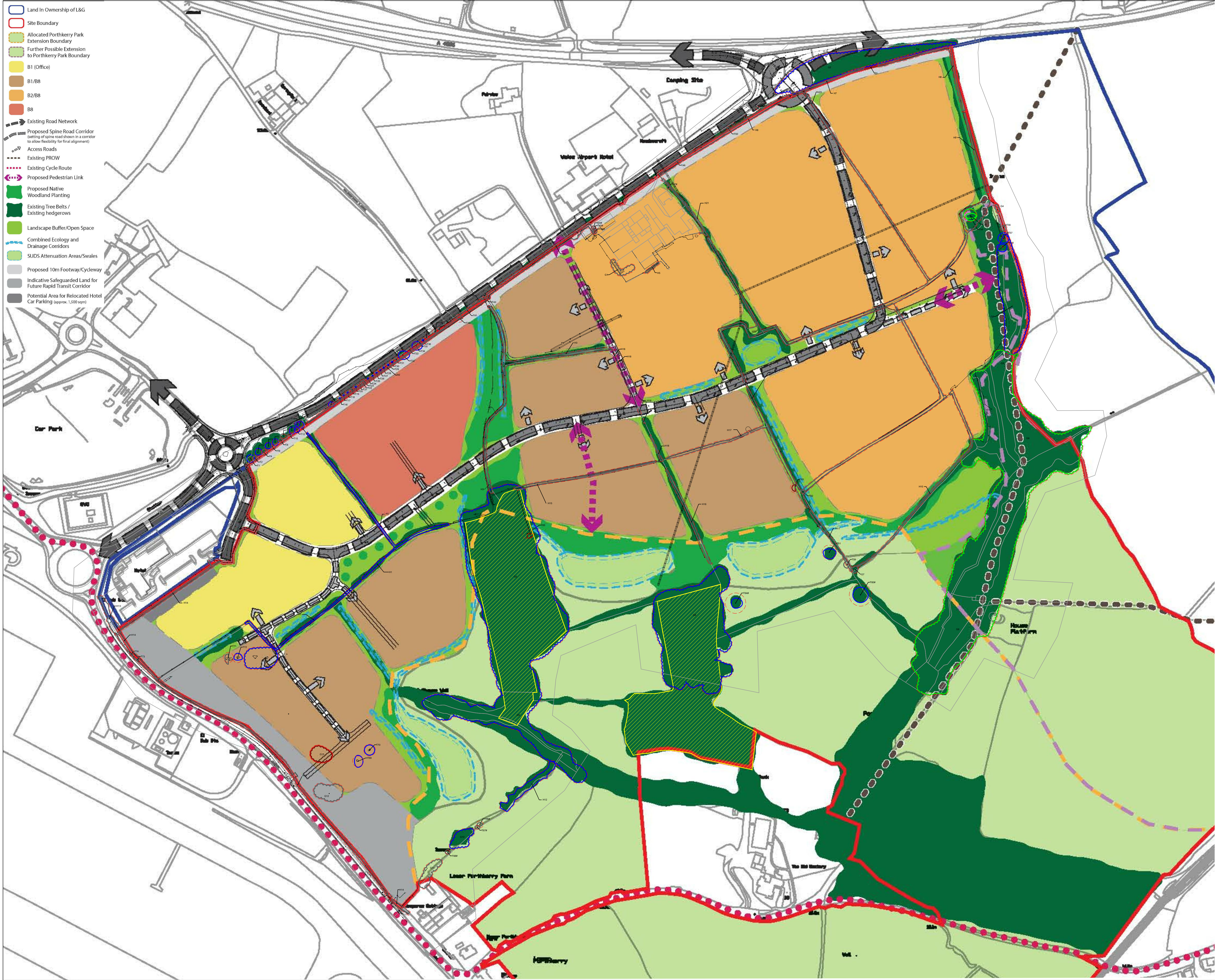


TABLES & APPENDICES

Indicative Concept Masterplan JCD0064-003P

Appendix B

Tree Survey with Masterplan Overlay JSL3282_700B



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Notes
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Key

- Survey boundary.
- Tree with numbered reference. Canopy spread and BS5837:2012 tree quality category as shown below.
- Tree (location estimated) with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Tree off-site with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Vegetation group with numbered reference. Canopy extents and BS5837:2012 tree quality category as shown below.
- Hedge with numbered reference. Width and BS5837:2012 tree quality category as shown below.
- BS 5837:2012 Tree Quality Categories - Table 1
 - Category A - High quality
 - Category B - Moderate quality
 - Category C - Low quality
 - Category U - Unsuitable for retention
- G1 Area of Ancient Woodland; as shown on the Lie interactive map.
- Scrub
- Tree protected by Tree Preservation Order No.xxx, xx xxxx. Bracketed number reference relates to the TPO Schedule.
- Root protection area (RPA) Calculated in accordance with Section 4.6 - BS5837:2012

NOTES:
• Refer to RPS Tree Survey Report & Schedule for further details.
• Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
• Plan produced in accordance with recommendations set out in BS 5837:2012 - 'Trees in Relation to design, demolition and construction'.
• Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period; generally, although not restricted to, March - August inclusive.
• Survey based upon topographic survey produced by RPS in December, 2018

B	Masterplan Overlay Attached	RC	DC	29/08/22
A	Minor Amends	JMB	SK	17/05/19
Rev	Description	By	CB	Date



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Project Model Farm, Rhoose

Title Tree Survey with Masterplan Overlay

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Job Ref JSL3282 Scale @ A1 1:2000 Date Created 09/05/2019

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Example Tree Protection Barrier (BS5837:2012 Fig. 2 & 3)

Figure 2 Default specification for protective barrier

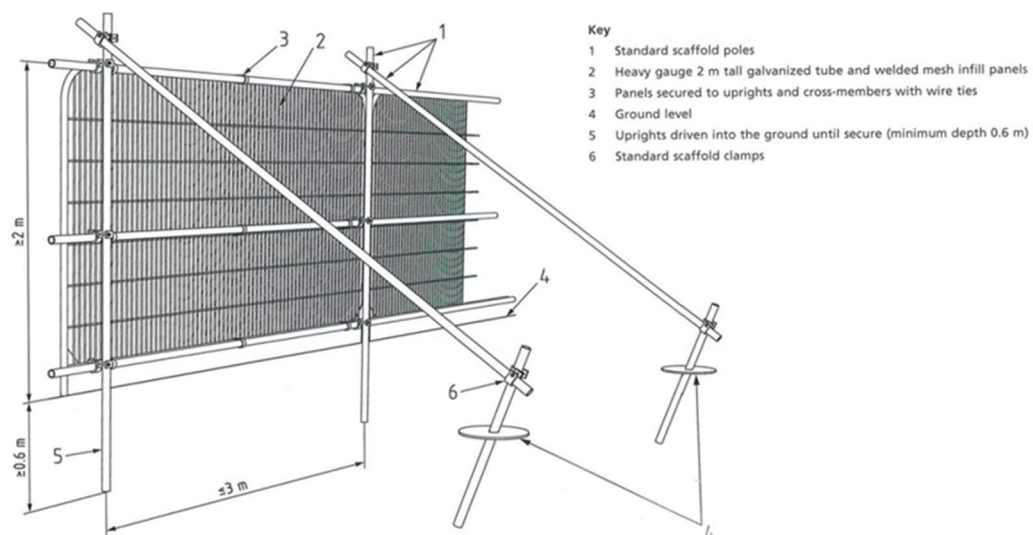
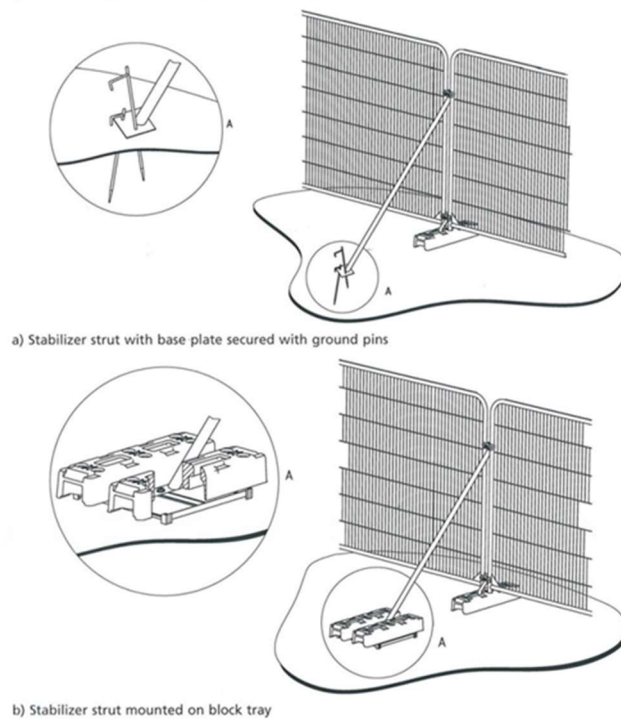


Figure 3 Examples of above-ground stabilizing systems



Construction Exclusion Zone (CEZ) Signage

