

BS5837:2012 Tree Survey & Arboricultural Constraints Report

**Location: Proposed Service Building, Gnoll Country Park,
Neath**

SA11 3DT

Grid Ref. SS76656 97511

w3w:driven.tracks.pumps

Client: NPTCBC / Andrew Scott Ltd

Consultant / Surveyor: Nick Thomas

August 2023

Tree Survey &
Arboricultural Constraints Report
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Site plan(s) showing the position of the schedule trees with their colour coded BS category and the position of the root protection zone fencing.

Section 1. Introduction

1.1 The following tree report has been prepared at the request of Mr Luke Rees of Andrew Scott Ltd.. The instructions were to survey the trees in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction and provide a report on all the trees which could be affected by the new service yard and building. One individual tree - T1 and one group of trees - G1 are shown on the attached site plan and these were the only trees that required surveying for this report.

1.2 The details of the individual trees are listed in the tree schedule and the terms used in the schedule with their definitions are listed in Appendix 1. Further information is available via the Tree Terms website which can be accessed via the [www address in Section 5 . References.](#)

1.3 Only the features apparent at the time of the inspection could be considered and no liability can be accepted regarding trees or their parts that were inaccessible or obscured in part or in whole. It has to be emphasised that although the health and safety of the trees is part of the assessment methodology used, this report is only intended for planning purposes, therefore it should not be construed as an assessment of tree safety. As part of this study faults may be identified and recorded but it remains the land owners / clients responsibility to take the appropriate action. The assessor / surveyor can accept no liability for damage or injury sustained as a result of the failure of any tree or its parts.

1.4 The only information provided for this survey was one proposed layout plan (Drawing number 05001) supplied by Hiraeth Architecture.

1.5 This report does not provide information on any conflicts between existing tree roots and buildings or infrastructure.

1.6 This report has been issued as a single PDF file. The tree protection plan (TPP) may need to be printed independently to evaluate and consider any difference in its size and orientation to the report's standard A4 format.

Section 2. Inspection and General Observations.

2.1 The tree survey was undertaken on the 1st August 2023 and was undertaken from ground level with no climbing inspections involved. The weather conditions during the survey were calm, dry and overcast.

2.2. The Gnoll country park is an early 18th century landscaped garden covering over 100 acres in the Vale of Neath. Due to its elevated position and location its western woodlands are clearly visible from the town of Neath and its surrounding areas. Regarding the new service yard it is intended that a ten metre buffer zone of scrub type trees is retained around the perimeter of the new access road, service yard and building. This will reduce the visual impact and prominence of the development.

2.3 Root morphology. The majority of the root spread of the trees in this area will be contained within the woodland. The trees adjacent to the northern boundary, footpath and car parking area will have been influenced and restricted by the footpath and its impermeable surface. Some root damage and soil compaction will have occurred during the construction of the footpaths and post construction the growing environment beneath these footpaths will be compacted and inhospitable for tree roots. In all probability the roots will have exploited the undisturbed ground away from the car parking area which is better for vigorous and healthy root growth.

2.4 The trees in this area are not protected with a tree preservation order and are not within a conservation area.

2.5 A total of one individual tree and one group / area of scrub type trees were inspected. Their individual positions are plotted on the site plan.

2.6 The quality rating for the trees on or affecting this site is summarised as follows.

TABLE A

BS5837 Quality category	Total number of individual trees surveyed	Total number of tree groups surveyed	Total number of woodlands surveyed	Total number of hedges surveyed	Total
A	0	0	0	0	0
B	1	0	0	0	1
C	0	1	0	0	1
U	0	0	0	0	0

Total A,B,C,U	1	1	0	0	2
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2.7 Soil assessment. The site's soil was assessed by desktop analysis using the Soilsclapes website, www.landis.org.uk/soilsclapes/, which identified the area as having a slowly permeable seasonally wet and acid loam or clay type soil.

This soil assessment should only be used as a general guide and the project engineer should undertake a detailed on site soil analysis for the foundation calculations and specifications.

Section 3. Tree and root protection area schedules.

TABLE B

Tree no.	Species	Ht. (m)	Stem dia. (mm)	Age	Crown spread (m)				Low branches	Cat.	Notes and recommended work
					N	E	S	W			
T1	Pedunculate Oak	13	32, 35	SM	8.0	4.5	5.0	4.5	2.0	B1	Remove low branches above the footpath
G1	P.Oak, Alder, Goat Willow	10-15	n/a	SM - M	n/a	n/a	n/a	n/a	1.0	C2	To allow a sufficient working area and installation of the security fence scrub clearance of approximately 700m2 and the pruning of the perimeter trees will be required
NOTE:											

TABLE C

Tree no.	Species	Mean stem dia. (mm)	RPA 1 (m2)	Minimum radial protection (m)		Justification for RPA modification	Position of protective barrier
				RPA 2	Modified		
T1	Pedunculate Oak	33.5	201	8.0	Yes	Tarmac footpath on northern side of RPA	Southern side of tarmac footpath

G1	P. Oak, Alder, Goat Willow	25	28	3.0	Yes	RPA offset to minimise tree removal	As shown on site and tree location plan
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Section 4. Arboricultural Impact Assessment (AIA)

4.1 This section will assess the implications, if any, that the proposed development will have on the 45 trees in the tree schedule – Table B and provide advice on arboricultural actions that will mitigate any impact resulting from the proposed development.

4.2 This information can then be used to evaluate the impact of the development on the tree(s) and if any remedial measures are required.

4.3 Please note that Table D of the AIA has been evaluated for the demolition, construction and post development phases and on the assumption that the new development will be on the same or very similar footprint to the existing building. Any design changes after this time may require an amendment of the AIA.

<u>TABLE D</u>	Issues	Observations	Impact
<i>Design phase</i>	Category A	There are no trees in this category	
	Category B	There is one Oak tree near the development.	
	Category C	An area of approximately 700 square meters will need to be cleared to facilitate the new access road, building and yard.	
	Category U	There are no trees in this category	
	Structures in RPA	Access road, service building and yard	
	Services in RPA	To be confirmed	
	Changes to existing ground levels	To be confirmed	

<i>Construction phase</i>	Demolition	There is no demolition involved in this scheme	
	Site access	With the recommended tree protection measures the existing site access can be used for the construction vehicles and machinery.	
	Working areas	Depending on the final design there may be some additional protection measures required.	
	Site office, storage and welfare unit.	There are sufficient areas outside the root protection areas that are adequate.	
	Vehicle parking	There is adequate car parking.	
<i>Post development</i>	Tree pruning / maintenance	If the tree work in Table B is undertaken any further tree work will be limited to general maintenance.	
	Tree roots	Future root growth is unlikely to affect the building but the access road and footpaths should be inspected on an annual basis and any damage repaired promptly.	
	Shading / periodic nuisance	There will be some shading and issues with falling leaves. General maintenance should keep this issue within acceptable limits.	

KEY - Prior to any mitigation measures

	No impact from development and no mitigation measures required.
	Some impact which will require mitigation measures.
	Low impact which may require mitigation measures.
	High impact which will require an amended design or tree removal.

4.4 Any infringement of the root protection areas of the retained trees to allow a sufficient area for the construction work will require ground protection. As a minimum this should comprise of a membrane laid on the soil surface with a 10cms covering of wood chippings and finally the installation of bog mats which can then be used for the passage of materials and site staff. Additional

measures such as a cellular confinement system for the new access road may also need to be considered.

4.5 Due to the retention of the surrounding trees which will form a natural screen there will be little impact on the local landscape.

Section 5. Recommendations.

5.1 To protect the trees root protection zones prior to any ground or construction work protective fencing as shown in Appendix 2 must be erected at an adequate distance from the trees. The minimum distances between the base of the main stem and the fencing are shown in Section 3, Table C under the RPA 2 column. After consultation and agreement with the local planning authority if the fence cannot be erected at the recommended distance from the tree it should be erected at the maximum distance possible and ground protection measures as stated in 4.4 above must be implemented.

5.2 All tree work must be completed by suitably qualified and competent arborists in accordance with the guidelines in BS3998:2010 Tree Work – Recommendations and current good practice.

5.3 No burning of waste products must be undertaken in the vicinity of retained trees.

5.4 To minimise any ground disturbance the removal of all stumps within the RPA's of retained trees must be undertaken by a stump grinder. Adequate ground protection with the use of bog mats to prevent soil compaction is usually required.

5.5 Soil contamination from cement mixing and washing must be avoided. If due to the topography of the land there is a risk of any contamination entering the RPA's and vicinity of retained trees adequate precautions to contain all pollution e.g. heavy duty plastic sheeting and sand bags, must be implemented.

5.6 Prior to any tree work the structure of the individual trees and surrounding area should be checked by a suitably competent and qualified person for protected species such as nesting birds and bats. If possible all tree work operations should be undertaken when the minimum disturbance is caused to the local wildlife.

5.7 The construction of new footpaths, parking and/or turning areas within root protection zones should be avoided. If this is unavoidable any works within these zones will require the installation of a cellular confinement system with a porous final surface. It would be advisable to obtain the advice of a suitably qualified arborist prior to this type of work.

5.8 On completion of the development to mitigate the loss of the scrub area an appropriate mixture of native tree species should be planted. There is limited space near the development but a suitable location is the perimeter of the new car parking areas to the north east of this development. This new planting will provide a natural screen, visual diversity, habitat for wildlife and a broader age class that currently exists.

Section 6. Conclusion

6.1 If the recommendations in BS5837:2012 and this report are followed due to the location and retention of the surrounding trees this development will not have a significant visual impact. Additional precautions such as ground protection will be required for any work within the root protection areas of retained trees.

Section 7. References.

British Standard 5837 : 2012 Trees in relation to design, demolition and construction.

British Standard 3998 : 2010 Tree Work – Recommendations.

Tree surveys – A guide to good practice (2005). Fay, Dowson & Helliwell.

Principles of tree hazard assessment and management (1999). Lonsdale.

National Joint Utilities Group Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Volume 4: Issue 2

<https://treeterms.co.uk>

Appendix 1: Terms used in Table B Tree and root protection area schedules

Tree no.	- tree tag / plan numbers
Tree name	- Common English name
Height	- Height in metres
Stem diameter climbing plants,	- Stem diameters measured as per BS5837:2012 recommendations. If due to climbing plants, dense vegetation or restricted access a direct measurement is not possible the diameter will be estimated.
Age class	- SM - Semi mature EM - Early mature M - Mature LM - Late mature
Crown spread	
Low branches	- Crown radius in metres to North, South, East and West - Distance to the lowest branch from ground level. - N/A - not applicable due to tree form.
RPA 1	- Recommended root protection area in square metres.
RPA 2	- Recommended root protection area radius measured from the base of the tree.
BS category	- refer Table 1 for classification and further information.

Appendix 2

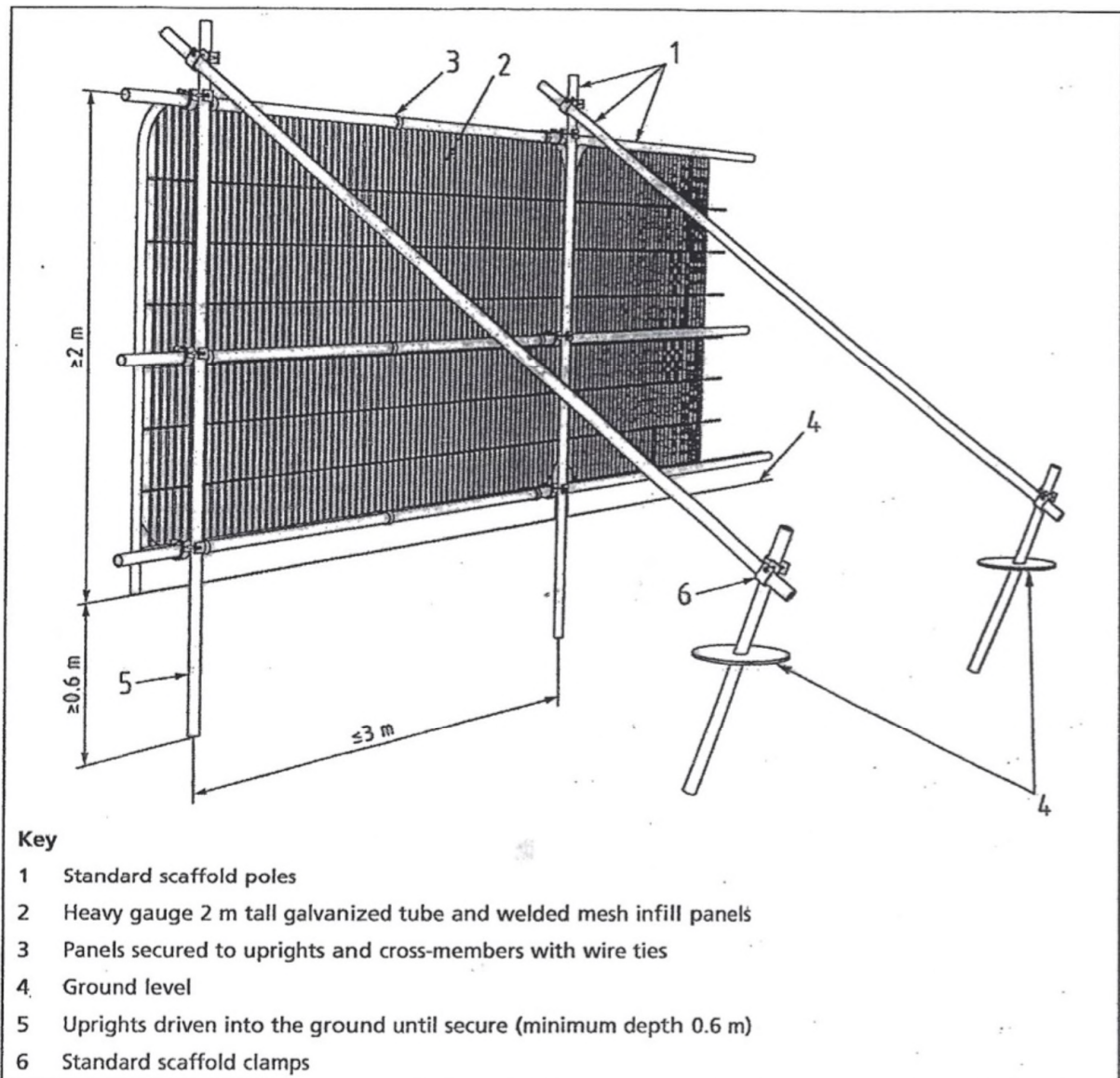


Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (Including subcategories where appropriate)	Identification on plan
Trees unsuitable for retention (see Note)		
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality	
NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve;		
1 Mainly arboricultural qualities 2 Mainly landscape qualities 3 Mainly cultural views including conservation		
Trees to be considered for retention		
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees with no material conservation or other cultural value



SITE AND TREE LOCATION PLAN

