

Arboricultural Survey to BS5837:2012

Zed Pods Ltd.

School Close, Bampton, Mid Devon, EX16 9NN (ZedPods ref. Z27)

13 December 2022

Jon Hartley BSc(Hons) MArborA



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If this report has been released electronically the appendices referred to herein can be found in the annexed zip folder/s as .pdf files. If this report has been released in hard copy the appendices will be bound into the back of this report. Plans are annexed separately as A0, A1, A2 or A3 as appropriate.

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1. Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 23 November 2022 from Laura Eimermann on behalf of Zed Pods Ltd. to attend School Close, Bampton, Mid Devon, EX16 9NN (site) to undertake an arboricultural survey a to BS5837:2012 guidance to assess trees, hedges and major shrub groups growing on and within influencing distance of the site and to produce a Schedule of trees and Tree Constraints Plan.

I am Jon Hartley, an arboricultural surveyor at Arbtech Consulting Ltd. I undertook the tree survey on 06 December 2022 and subsequently, have produced this summary of my findings.

I passed the RFS Certificate of Arboriculture in 2000 after a short time working in the industry. During a six-year spell in Australia, I passed the Australian Qualifications Framework (AQF) level 5 Diploma in arboriculture. I also now hold a BSc (Hons) degree in Arboriculture and Urban Forestry and the obligatory LANTRA Professional Tree Inspector certification. I benefit from professional industry experience spanning 20 years. I have professional memberships with the Consulting Arborist Society and the Arboricultural Association and an associate membership with the Institute of Chartered Foresters.

The advice below and appended is underwritten by our Professional Indemnity insurance for the business practice of Arboricultural Consultancy in the sum of one million Pounds Sterling in each and every claim.

Document	Reference No.
Survey base drawing	OS Tile
LPA pre-app comments	N/A
British Standard 5837:2012	"BS5837"
Tree Survey Schedule	Arbtech TS 01
Tree Constraints Plan	Arbtech TCP 01

2. Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Jon Hartley 06 December 2022.

During the survey I categorised the trees using "Table 1 –Cascade chart for tree quality assessment" of the BS5837:2012 (see Appendix 1).

A total of 17No. individual trees, 1No. group of trees and 1No. hedge were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees (see Appendix 2).

Multiple small trees and shrubs occupy the site, none of which meet the minimum diameter requirements to be considered for this survey.



Table 2: Documents upon which this tree survey has been based.

Document	Originator	Reference Number	Title
Survey base drawing	Pear Technology Map Shop.	OS Tile	

Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and advanced decay detection equipment were not employed, though may form part of the survey's management recommendations. Measurements were taken using specialist tapes, laser, and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (*i.e. not in relation to the proposed development*).

Legal Status: No statutory protection check has been performed. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order ("TPO"), and those trees without. This is principally because a detailed planning consent overrides any TPO protection. Consequently, we do not seek to offer any comparison between or infer any difference in the quality or importance of TPO trees and other trees.

* For more information on the surveyed trees please see Arbtech Consulting Ltd, Tree Survey Schedule (Appendix 1), Tree Survey Report and Tree Constraints Plan.

Site description

The site consists of 2No residential terraces to the North and East of School Close.





Figure 1: Ordinance Survey tile of survey area (Pear Technology Map Shop)



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3. BS5837:2012 Scope

This standard recognises that there can be problems for development close to existing trees which are to be retained, and of planting trees close to existing structures. This standard sets out to assist those concerned with trees, in relation to construction, to form balanced judgements. It does not set out to put arguments for or against development, or for the removal or retention of trees. Where development, including demolition, is to occur, the standard provides guidance on how to decide which trees are appropriate for retention, on the means of protecting these trees during development, including demolition and construction work, and on the means of incorporating trees into the developed landscape.

4. Methodology

The methodology used to assess the trees was the British Standard 5837:2012 'Trees in Relation to Construction' tree survey method. The aim of the survey is to establish which trees are moderate and good quality; suitable for retention and justifying protection. And which trees are low or poor quality; either undesirable or unsuitable to retain and protect.

The tree survey includes all trees included in the land survey red line boundary plan, as well as any that may have been missed, and it should categorize trees or groups of trees, including woodlands for their quality and value within the existing context, in a transparent, understandable, and systematic way. Where the arboriculturist has deemed it appropriate, the trees have been tagged with small metal or plastic tags, placed as high as is convenient on the stem of each tree.

Whilst master plan proposals for the development of the site might be available, the trees have been surveyed without taking these into consideration. All detailed design work on site layout should take into consideration the results of the tree survey (and the TCP).

Trees forming groups and areas of woodland (including orchards, wood pasture and historic parkland) are identified and considered as groups where the arboriculturist has determined that this is appropriate, particularly where they contain a variety of species and age classes that could aid long-term management. It is often expedient to assess the quality and value of such groups of trees as a whole, rather than as individuals. However, an assessment of individuals within any group has been undertaken if they are open-grown or if there is a need to differentiate between them.

The quality and value of each tree or group of trees has been recorded by allocating it to one of the four categories: A, B, C, or U (highest to lowest quality respectively). The categories are differentiated on the tree survey plan by colour, or by suffixing the category adjacent to the tree identification number on the TCP.

The survey schedule lists all the trees or groups of trees. The following information is also provided:

- a) reference number (to be recorded on the tree survey plan);
- b) species (common or scientific names);
- c) height in meters (m);
- d) stem diameter in millimetres (mm) at 1.5m above adjacent ground level or immediately above the root flare for multi-stemmed trees;
- e) branch spread in meters taken at the four cardinal compass points;
- f) height of crown clearance above adjacent ground level in meters (m);
- g) age class (newly planted, young, semi-mature, early mature, mature, over mature);
- h) physiological condition (e.g. good, fair, poor, decline and dead);
- i) structural condition (e.g. good, fair, poor or not visible);
- j) comment about the tree, its location and preliminary management recommendations, including further investigation of suspected defects that require more detailed assessment and potential for wildlife habitat;
- k) The retention category referring to the quality and useful contribution in years; U = <10yrs; A = >40yrs; B = >20yrs; C = >10yrs. The retention subcategory referring to the type of amenity; 1 = Arboricultural; 2 = Landscape; 3 = Cultural including conservation (see Appendix 1 Cascade chart for tree quality assessment).

5. Definitions

Arboriculturist

An arboriculturist (or arboricultural consultant) is a person who has, through relevant education, training, and experience, gained recognized qualifications and expertise in the field of trees in relation to construction.

Tree Survey

A tree survey should be undertaken by an arboriculturist and should record information about the trees on a site independently of and prior to any specific design for development. As a subsequent task, and with reference to a design or potential design, the results of the survey should be included in the preparation of a tree constraints plan, which should be used to assist with site layout design.

Tree Constraints Plan

A TCP is plan, typically delivered as an AutoCAD drawing (.DWG file format), prepared by an arboriculturist for the purposes of layout design showing the root protection area and representing the effect that the mature height and spread of retained trees will have on layouts through shade, dominance, etc.

Root Protection Area

An RPA is a layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m².

Construction Exclusion Zone (also termed Tree Protection Zone)

A construction exclusion or tree protection zone is an area based on the RPA (in m²), identified by an arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.

Arboricultural Impact Assessment (AIA)

This is a study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

Tree Protection Plan (TPP)

A TPP is plan, typically delivered as an AutoCAD drawing (.DWG file format), prepared by an arboriculturist showing the finalized layout proposals, tree retention and tree and landscape protection measures detailed within the arboricultural method statement, which can be shown graphically.

Arboricultural Method Statement (AMS)

This is a methodology for the implementation of any aspect of development that has the potential to result in loss of or damage to a tree. The AMS is likely to include details of an on-site tree protection monitoring regime.



6. Recommendations

With the benefit of making an assessment of your planning proposals, we make the following recommendation to ensure that there are no irrevocable issues to the proposed retained trees and so that no conditions relating to arboriculture are attached to any planning consent secured; obtain an arboricultural report to include:

- a) An arboricultural impact assessment (AIA).
- b) An arboricultural method statement (AMS).
- c) A tree protection plan drawing (TPP).

7. Limitations

Trees were inspected from using visual observation from ground level only. Trees were not climbed or inspected below ground level. Inaccessible trees will have best estimates made about the location, physical dimensions, and characteristics. Trees have been grouped where BS5837 guides us that it is expedient to do so. Trees have been excluded from the survey if they are found by us to be sufficiently far away from the proposed developable area or if they are outside of the red line boundary plan showing the expectations of our client for the extent of the survey. BS5837 does not draw any distinction between trees subject to statutory protection, such as a Tree Preservation Order ("TPO"), and those trees without. This is principally because a detailed planning consent overrides any TPO protection. Consequently, we do not seek to offer any comparison between or infer any difference in the quality or importance of TPO trees and other trees.



8. Appendices

The following documents were released to the Client as appendices to this report:

- Survey Schedule (.PDF)
- Tree Constraints Plan drawing (.DWG & .PDF)

If you require clarification of information contained herein, please do not hesitate to contact us via 01244 661170.

Yours Sincerely,



Jon Hartley BSc (Hons) MArborA Principal Arboriculturist







Appendix 1: Table 1 Cascade chart for tree quality assessment



Cascade chart for tree quality assessment

Table 1



BS5837:2012 Trees in relation to design, demolition and construction -Recommendations

Category and definition	Criteria (including subcategories when appro	ppriate		Identification on plan					
Trees unsuitable for retention (se	e Note)								
 •Trees that have 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 are showing signs of significant, immediate, and irreversible overall decline. •Trees that are dead or are showing signs of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. <i>NOTE Category U trees can have existing or potential conservation value which might be desirable to preserve; see 4.5.7.</i> 									
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation						
Trees to be considered for retent	ion								
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 dominate and/or principal trees within an avenue).	Trees, groups, or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood- pasture).	Light green					
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 though remedial defects, including unsympathetic management and storm damage), such that they are unlikely to be suitable for retention of 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 a 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.	Trees with material conservation or other cultural value.	Mid blue					
Category C Trees of low quality with an estimated remaining expectancy of at least 10 years, or young trees with a s diameter below 150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, without this conferring on them significantly greater collective landscape value; an trees offering low or only temporary/transient landscape value.	Trees with no material conservation other cultural value.	Grey					

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Ecology -Protected Species - Licensing -Arboriculture -Biodiversity Net Gain -Land/Topographical Survey



Appendix 2: Schedule of Trees



Client: Zed Pods L								BS5	837:20	12 Tree	Survey		Arbtech Consulting Ltd. Unit 3, Well House Barns	
Project: School Clos EX16 9NN Survey Date: 06/12/202 Surveyor: Jon Hartley	(ZedPod 2			evon,				ŕ	ጓ a	rbte	ch		Chester Road Chester Cheshire CH4 0DH Phone: 01244661170	
Tree and Tag No Species		Hght (m)	No	Stems Ø (mm)	Spre (m)		Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition		Preliminary Recommendations Survey Comment	Cat ERC
G01													Estimated Me	easuremer
A Group See comments for details		6	1	70	N E S W	0 1.5 1.5 1.5	2 2 2 2	Υ	A: 2.2 R: 0.83	Good	C: Good S: Not visible B: Not visible	Off site g	proup; base and stem from ground level to 2.5m not r inspection due to lack of access; of fair quality and e.	C.2 10+ yr:
H01													Estimated Me	easuremer
Various See comments for details		2	1	100	N E S W	1 1 1 1	0 0 0	SM	A: 4.5 R: 1.19	Good	C: Good S: Good B: Good		ecies hedge including Leyland cypress, elder, , hawthorn and hazel; of low quality and value.	C.2 10+ yr:
T01														
River Birch <i>Betula nigra</i>		7	1	280	N E S W	4 2 4 4	2 2 2 2	EM	A: 35.5 R: 3.36	Good	C: Good S: Good B: Good		trical crown distribution due to proximity of companion air quality and value.	B.1 20+ yrs
T02														
Silver Birch <i>Betula pendula</i>		11	1	290	N E S W	4 4 2 4	2 2 2 2	EM	A: 38.1 R: 3.48	Good	C: Good S: Good B: Good		trical crown distribution due to proximity of companion air quality and value.	B.1 20+ yrs
Age Classifications:	N New	ly plante	ed	EM Early	Mature		0	Condit	ion: C	Crown		Stems:	Ø Diameter	
-	Y Your SM Sem	ng		M Matur OM Over	re				E	Stem	а		(Eq) Equivalent stem diameter using BS5837:2012 det Estimated Remaining Contributio	finition
Page 1									Tree	Minder			12 Dece	mber 202

					W	1	1								
Т06														Estimated	Measuremen
Lawson Cypress		8	1	200	Ν	2	2	EM	A: 18.1	Good	C: I	Fair			C.2
Chamaecyparis lawsoniana					E	2	2		R: 2.4			Not visible		tree; observations limited by off site position and	 10+ yrs
					S W	2 2	2 2				B: I	Not visible		ry fence; of fair condition and low quality.	-
					VV	2	2								
T07															
Norway Maple		8	1	380	Ν	4		EM	A: 65.3	Good		Good			B.1.2
Acer platanoides					E	4	2		R: 4.55			Good	No sign	ificant features noted; of good quality and fair value.	40+ yrs
					S	4	2				B: (Good	- 5		
					W	4	2								
Т08															
Silver Birch		13	1	350	Ν	5	2	EM	A: 55.4	Good	C: (Good			B.1
Betula pendula					E	4	2		R: 4.19		S: (Good	Asymm	etrical crown distribution due to proximity of former	20+ yrs
					S	2	2				B: (Good		nion tree; of fair quality and value.	201 313
					W	3	4						company		
Ang Classifications	N	Newly plante	ed	EM Early	Mature		Со	nditi	on: C	Crown			Stems:	Ø Diameter	
Age Classifications:															
Age classifications:	Y	Young		M Matu	re				S	Stem				(Eq) Equivalent stem diameter using BS5837:2012 c	lefinition

Tree and Tag No		Hght	S	Stems		Crown			RP	Phys	Structural	Preliminary Recommendations	Cat
Species		(m)	No	Ø (mm)	Sprea (m)			Age	A (m²) R (m)	Condition	Condition	Survey Comment	ERC
Т09													
Silver Birch		7	1	350	Ν	4	2	EM	A: 55.4	Good	C: Good		C.1
Betula pendula					Е	2	2		R: 4.19		S: Good	Asymmetrical crown distribution due to proximity of former	20+ yrs
					S	2	2				B: Good	companion tree; of fair quality and low value.	5
					W	3	2						
T10													
Southern Magnolia		4.5	1	210	Ν	3	1	SM	A: 20	Good	C: Good		C.1
Magnolia grandiflora					Е	4	1		R: 2.52		S: Good	Off site tree; of fair quality and low value.	10+ yrs
					S	1.5	1				B: Good		5
					W	3.5	1						
T11												Estimated N	leasurement
Common Ash		10	1	300	Ν	4	6	SM	A: 40.7	Good	C: Good		C.1.2
Fraxinus excelsior					Е	4	3		R: 3.59		S: Not visible	Base and stem to 6m not visible for detailed inspection due to	10+ yrs
					S	3	4				B: Not visible	ivy coverage; of fair quality and value.	,
					W	3	7						
T12												Estimated N	leasurement
Brewer Spruce		8	1	270	Ν	3.5	1	EM	A: 33	Good	C: Good		B.1.2
Picea brewerana					Е	3.5	1		R: 3.24		S: Not visible	Off site tree: base and stem to anex not visible for detailed	20+ yrs
					S W	3.5 3.5	1 1				B: Not visible	inspection due to ivy; no significant features noted; of good quality and fair value.	2
T13												Estimated M	leasurement
Apple		3.5	1	100	Ν	1.5	1	SM	A: 4.5	Fair	C: Fair		C.1
Malus sp.					Е	1.5	1		R: 1.19		S: Good		 10+ yrs
					S	1.5	1				B: Good	Pruned to current dimensions; of low quality and value.	101 913
					W	1	1						
T14												Estimated N	leasurement
Common or Black Elder		3	1	80	Ν	1.5	1	SM	A: 2.9	Good	C: Fair		C.1
Sambucas nigra					Е	1.5	1		R: 0.96		S: Good	Of low quality and value.	10+ yrs
					S	1.5	1				B: Good	Of low quality and value.	101 313
					W	1.5	1						
Age Classifications:	N	Newly plant	ted	EM Early	/ Mature		C	onditi	ion: C	Crown		Stems: Ø Diameter	
	Y	Young		M Matu	ıre				S	Stem		(Eq) Equivalent stem diameter using BS5837:2012 de	efinition
	SM	Semi-matur	re	OM Over	r Mature				В	Basal area	l	ERC: Estimated Remaining Contributio	
Page 3									TreeN	linder		12 Dec	ember 2022

Tree and Tag No		Hght	\$	Stems		Crowr			RP	Phys	c	Structural		Preliminary Recommendations	Cat	
Species		(m)	No	Ø (mm)) Sprea	ad	Clear (m)	Age	A (m²) R (m)	Condition		Condition		Survey Comment	ERC	
T15														Estimated N	Measurement	
Austrian Pine		5	1	80	Ν	1.5	2	Y	A: 2.9	Good	C:	Good			C.1	
Pinus nigra ssp. Nigra						Е	1.5	2		R: 0.96			Not visible	Off site	tree; base and stem from ground level to 3m not	20+ yrs
					S	1.5	2				B:	Not visible	visible f	or detailed inspection due to lack of access; of fair	5	
					W	1.5							quality a	and low value.		
T16														Estimated N	Neasurement	
Common or Black Elder		3	1	80	Ν	1.5	1	SM	A: 2.9	Good	C:	Fair			C.1	
Sambucas nigra					Е	1.5	1		R: 0.96			Good	Of low o	quality and value.	10+ yrs	
					S	1.5	1				B: Good	Good	01.000		2	
					W	1.5	1									
T17														Estimated N	Neasurement	
Elm		6	1	350	Ν	1	3	SM	A: 55.4	Dead		Poor			U	
Ulmus sp.					Е	1	3		R: 4.19			Poor	Standin	g dead tree.	n/a	
					S	1	3				B:	Poor		5		
					W	1	3									
Age Classifications:	N	Newly plante	ed	EM Ea	rly Mature		C	ondit	ion: C	Crown			Stems:	Ø Diameter		
Age Classifications:	N Y	Newly plante Young	ed		rly Mature ture		C	Condit	ion: C S			:	Stems:	Ø Diameter (Eq) Equivalent stem diameter using BS5837:2012 d	efinition	



Appendix 3: Tree Constraints Plan



9. Document Production Record

Document number	Editor	Signature	Position	lssue number	Date
Arbtech TSR 01	Jon Hartley		Principal Arboriculturist	01	13/12/22

Limitations

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