



Arboricultural Survey to BS5837:2012

Netherdown (Herts) Ltd

Barn to the west of Lordship Farmhouse

Pirton Road

Holwell

Hertfordshire

SG5

17 February 2025

Dean Meadows BSc (Hons) MArborA

Principal Arboricultural Consultant

Table of Contents

1. Introduction	2
2. Author	2
3. Survey	3
4. BS5837:2012 Scope	4
5. Methodology	4
6. Definitions.....	6
7. Limitations	7
8. Appendices	8
Appendix 1: Table 1 Cascade chart for tree quality assessment	9
Appendix 2: Schedule of Trees	11
Appendix 3: Tree Constraints Plan.....	18
9. Document Production Record	20

1. Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 21 January 2025 from Cory O'Connor to attend Barn to the west of Lordship Farmhouse, Pirton Road, Holwell, Hertfordshire, SG5; grid reference, TL 16346 32927 (site) to undertake an arboricultural survey 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, Tree Constraints Plan, Arboricultural Impact Assessment, Arboricultural Method Statement and Tree Protection Plan.

2. Author

Dean Meadows is a Principal Arboricultural Consultant and is the lead consultant for this project and the author of this report. He graduated from Myerscough where he studied BSc (Hons) Arboriculture and Urban Forestry, achieving a First Class for his research project and overall degree, obtaining a Distinction in all but one module. Before this, Dean completed a National Diploma in Applied Horticulture, also at Myerscough. He is now undertaking the MSc in Arboriculture and Urban Forestry.

In 2020, Dean was named as one of Pro Landscaper's 30 Under 30: The Next Generation, an award recognising exemplary young, aspiring, and ambitious professionals.

Dean has expertise in undertaking large to small-scale tree risk and condition surveys and collaborates with organisations, landowners and Local Authorities to ensure the application of common-sense inspection and management principles to meet their duty of care efficiently and cost-effectively.

Dean holds the industry standard LANTRA Professional Tree Inspection accreditation. He is an experienced and proficient user of THREATS (Tree hazard: Risk Evaluation and Treatment System) and is a Registered User of QTRA (Quantified Tree Risk Assessment).

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.

Table 1: Documents referred to.

Document	Reference No.
Survey base drawing	TS24-542-1A-RevA
LPA pre-app comments	N/A
British Standard 5837:2012	"BS 5837"
Tree Survey Schedule	Arbtech TS 01
Tree Constraints Plan	Arbtech TCP 01

3. Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Dean Meadows on 11 February 2025.

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

A total of 14no. individual trees, 4no. groups of trees and 1no. hedge were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees (see Appendix 2).

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

Document	Originator	Reference Number	Title
Survey base drawing	Terrain Surveys	TS24-542-1A-RevA	Topographical Survey

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.

4. 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.

5. 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).

6. 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.

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.

This report does not constitute a tree safety survey, nor does it fulfil the stewards/landowners Duty of Care in relation to tree risk.

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,



Dean Meadows BSc (Hons) MArborA

Principal Arboricultural Consultant

07512306466

Deanmeadows@arbtech.co.uk

Appendix 1: Table 1 Cascade chart for tree quality assessment

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

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories when 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 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 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. <i>NOTE Category U trees can have existing or potential conservation value which might be desirable to preserve; see 4.5.7.</i>			Dark red
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, 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 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 stem 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, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape value.	Trees with no material conservation or other cultural value.	Grey

Appendix 2: Schedule of Trees

Tree Survey Schedule

Barn to the west of Lordship Farmhouse, Pirton Road, Holwell, Hertfordshire, SG5

Client Netherdown (Herts) Ltd

Survey Date 11 February 2025

Weather Conditions Dry and bright

Surveyor Dean Meadows

Key:

Tree Number A unique number or reference to identify trees or groups as shown on associated plans.

Species Common and or taxonomic names.

Height The height of the tree in meters (m).

Trunk Diameter The stem diameter in millimetres (mm) taken at 1.5m above ground level unless otherwise specified. # denotes diameter estimated

Canopy Spread The extent of the canopy taken in meters (m) to the principle points of the compass, North (N), East (E), South (S) and West (W).

Crown Clearance The height of canopy clearance above ground level to the lowest point of the canopy, taken in meters (m).

Age Class Age classification; Young (Y), Early Mature (EM), Mature (M), Late Mature (LM), Veteran (V).

Physiological Condition The general physiological condition of the tree; Average, Below average, Low, Dead.

Structural Condition The general structural condition of the tree; Good, Moderate, Indifferent, Poor, Hazardous.

Comments Notes and general comments on the structural condition of the tree, its environment and it estimated remaining contribution.

Category The retention category referring to the quality and useful contribution in years; **U** = <10yrs; **A** = >40yrs; **B** = >20yrs; **C** = >10yrs. The retention sub category referring to the type of amenity; 1 = Arboricultural; 2 = Landscape; 3 = Cultural including conservation.

Tree No.	Species	Height	Trunk Diameter	Canopy Spread	Crown Clearance	Age Class	Physiological Condition	Structural Condition	Comments	Category
1	English oak	14m	1170mm	N11m E9m S11m W7m	1.5m	Mature	Average	Moderate	Off-site open-grown oak growing within the adjacent paddock.	A (12)
2	Common walnut	7m	250mm#	4m	1m	Semi-mature	Average	Moderate	Off-site; crown conflict with farm building.	C (1)
3	Norway spruce	13m	500mm#	4m	1.5m	Mature	Average	Moderate	Off-site; stem diameter estimated.	B (1)
4	Apple	7m	450mm#	N1m E5m S3m W4m	2m	Mature	Average	Moderate	Off-site; stem diameter estimated; imbalanced crown.	C (1)

Tree No.	Species	Height	Trunk Diameter	Canopy Spread	Crown Clearance	Age Class	Physiological Condition	Structural Condition	Comments	Category
5	Silver birch	8m	250mm#	N3m E3m S3m W3m	1.5m	Early-mature	Average	Moderate	Off-site; stem diameter estimated.	C (1)
6	Silver birch	5m	300mm#	N1m E3m S4m W5m	1.5m	Early-mature	Low	Poor	Off-site; stem diameter estimated; broken leader resulting in a low, sprawling crown.	U
7	Silver birch	8m	300mm#	N3m E3m S3m W4m	1.5m	Early-mature	Low	Moderate	Off-site; stem diameter estimated; upper crown dieback.	C (1)
8	Holly	5m	2 stems @ 100mm#	N3m E2m S1.5m W3m	1.5m	Semi-mature	Average	Moderate	Off-site; stem diameter estimated.	C (1)

Tree No.	Species	Height	Trunk Diameter	Canopy Spread	Crown Clearance	Age Class	Physiological Condition	Structural Condition	Comments	Category
9	Silver birch	5.5m	250mm	N1m E2m S3.5m W3m	1.5m	Early-mature	Low	Poor	Off-site; stem diameter estimated; overt upper crown dieback.	U
10	Silver birch	9m	300mm#	N3m E3m S2m W3m	1.5m	Early-mature	Low	Poor	Off-site; stem diameter estimated; overt dieback throughout the crown.	U
11	Beech	12m	700mm#	N9m E8m S9m W9m	1.5m	Mature	Average	Moderate	Off-site; stem diameter estimated.	B (12)
12	Silver birch	9m	400mm	N4m E4m S5m W5m	1.5m	Early-mature	Low	Poor	Off-site; stem diameter estimated; overt dieback throughout the crown.	U

Tree No.	Species	Height	Trunk Diameter	Canopy Spread	Crown Clearance	Age Class	Physiological Condition	Structural Condition	Comments	Category
13	Silver birch	7m	300mm	N3m E3m S4m W3m	1.5m	Early-mature	Average	Moderate	Off-site; stem diameter estimated.	C (2)
G1	Elder	3m	Max 100mm	2m	1m	Semi-mature	Average	Moderate	Off-site; dense thicket of self-sown elder.	C (2)
G2	Deodar cedar and Sitka spruce	10m	Max 400mm#	4m	1.5m	Early-mature	Average	Moderate	Off-site coniferous tree group.	B (2)
G3	Holly and Beech	6m	Max 200mm	4m	0m	Semi-mature	Average	Moderate	Off-site tree group.	C (2)

Tree No.	Species	Height	Trunk Diameter	Canopy Spread	Crown Clearance	Age Class	Physiological Condition	Structural Condition	Comments	Category
G4	Cherry laurel	5m	Max 80mm#	4m	0m	Early-mature	Average	Moderate	Cherry laurel shrub mass.	C (2)
H1	Beech	1.5m	Max 50mm#	0.5m	0m	Semi-mature	Average	Moderate	Maintained hedge.	C (2)

Appendix 3: Tree Constraints Plan



Trees are categorised in accordance with the cascade chart in Table 1 of the British Standard BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'

Category 'U' - Trees in such condition that they cannot realistically be retained as living trees in context of the current land use for longer than 10 years.

Category 'A' - Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category 'B' - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
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 150mm.

In order to avoid damage to the roots or rooting environment of retained trees, the Root Protection Areas (RPAs) are plotted around each of the category A, B and C trees. This is a minimum area in m² which should be left undisturbed around each retained tree.

The RPA is calculated using the British Standard BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

The calculated RPA is capped to 707m², which is the equivalent to a circle with a radius of 15m. Where there appears to be restrictions to root growth the root protection area is reshaped to more accurately reflect the likely distribution of the roots.



Client	Netherdown (Herts) Ltd
--------	------------------------

Based on: TS24-542-1A-RevA

Date:	Scale:
Feb 2025	1:200

Tree Nos.:	1	Tree Canopies:		Trunks:	
RPAs:		Category 'U' trees:		Category 'A' trees:	
Category 'B' trees:		Category 'B' groups:		Category 'C' trees:	
Category 'C' groups:					

All dimensions should be checked on site. No dimensions are to be scaled from this drawing.
Please notify us of any dimensional changes. This Contracting L.L.M. cannot be held responsible for
inaccuracies in the base drawing in which this plan is based.
This drawing is designed to reflect the principles of the layout or design only, and relates only to the
protection of retained trees.
This drawing is not to be read as a definitive part of the engineering or construction designs or method
statements. An architect or structural engineer should be contacted over any matters of construction,
material or specification and for any standards or regulatory requirements relating to proposed structural
work surfacing or underground services.
This drawing was produced in colour - a microchrome copy should not be relied upon.

9. Document Production Record

Document number	Editor	Signature	Position	Issue number	Date
Arbtech TSR 01	Dean Meadows	<i>Dean</i>	Principal Arboricultural Consultant	01	17/02/25

Limitations

Arbtech Consulting Ltd has prepared this report for the sole use of the above-named Client/Agent in accordance with our terms of business, under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Ltd. The assessments made assume that the sites and facilities will continue to be used for their current purpose without significant change. The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from third parties has not been independently verified by Arbtech Consulting Ltd.

Copyright

© This Report is the copyright of Arbtech Consulting Ltd. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.