



BS5837:2012

**Trees in relation to design, demolition and construction –
Recommendations**

Tree Survey

Mrs L Sawyer

Harbour View

Marine Walk

Hayling Island

Hants PO11 9PQ.

4 August 2016

Author: David Archer

Mrs L Sawyer
Harbour View
Marine Walk
Hayling Island
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04/08/16

Tree Survey Report

Harbour View, Marine Walk, Hayling Island

Arbtech Consulting Limited (Arbtech) received written instruction on 29th July 2016 from Mrs L Sawyer to attend Harbour View, Marine Walk Hayling Island (site) on 1st August 2016 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 a Tree Constraints Plan,.

I am David Archer, an arboricultural surveyor at Arbtech Consulting Ltd. I undertook the tree survey on 1st August 2016 and subsequently have produced this summary of my findings.

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.

Tree Survey Executive Summary

A total of 13 individual trees and 1no hedge was surveyed.

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

Harbour View is a single, two storey detached property surrounded by a moderate sized but neglected garden that consists primarily of overgrown shrub borders and small trees. It is a level site with some small out-buildings and a WW2 air raid shelter. The trees to the rear of the site were not surveyed as they will be far outside of any influence that the proposal could possibly make.

The proposed development is to construct an extension to the rear of the existing property.

It is likely that arboricultural impacts can be addressed with arboricultural methodology or minor amendments to the proposal.

Individual notes on each tree's structural and physiological condition are found in the Notes section of the survey schedule.

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BS5837 Scope

This standard recognizes that there can be problems of 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.

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

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

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

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.

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 the majority of 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:

- I. reference number (to be recorded on the tree survey plan);
- II. species (common or scientific names);
- III. height in metres (m);
- IV. stem diameter in millimetres (mm) at 1.5 m above adjacent ground level or immediately above the root flare for multi-stemmed trees;
- V. branch spread in metres taken at the four cardinal compass points;
- VI. height of crown clearance above adjacent ground level in metres (m);
- VII. age class (Newly planted, Young, Semi-mature, Early mature, Mature, Over mature);
- VIII. physiological condition (e.g. good, fair, poor, decline and dead);
- IX. structural condition (e.g. good, fair, poor and ivy);
- X. preliminary management recommendations, including further investigation of suspected defects that require more detailed assessment and potential for wildlife habitat; and
- XI. 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.

Recommendations

With the benefit of making an assessment of your planning proposals, we make the following recommendation to ensure 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); and
- c) A tree protection plan drawing (TPP).

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.

Appendices

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

- Survey Schedule (PDF)
- Tree Constraints Plan drawing (PDF)

If you require clarification of information contained herein, please do not hesitate to contact us via 01244 660558.

Yours Sincerely,

David Archer

Arboricultural Surveyor

Appendix 1: Schedule of Trees

Tree Survey Schedule

Harbour View, Marine Walk, Hayling Island, PO11 9PQ

Client: Mrs L Sawyer

Survey Date 1st August 2016

Weather Conditions Overcast with light rain

Surveyor David Archer

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. Estimated dimensions - #

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), Middle Aged (MA), 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.

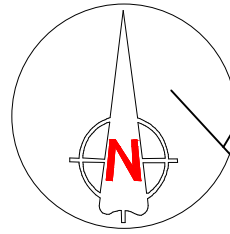
Comments Notes and general comments on the structural condition of the tree, its environment and it estimated remaining contribution.

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 (M)	Trunk Diameter (MM)	Canopy Spread (M)	Crown Clearance (M)	Age Class	Physiological Condition	Structural Condition	Comments	Category
1	Leyland Cypress	5m	280mm	3.5m	2m	Mature	Dying	Moderate	Dying; of short term potential only.	U
2	English Oak	6m	270mm	2.5m	2m	Semi Mature	Average	Good	No significant visible structural defects; form & structure typical for species and age; of moderate quality but low value.	C ₁
3	English Oak	6m	260mm	3m	2m	Semi Mature	Average	Moderate	Asymmetrical crown inclined to the W; of low quality and value.	C1
4	Ash	6m	130mm 110mm	2.5m	2m	Young	Average	Moderate	Twin stemmed from base; of poor form; of low quality and value.	C1
H1	Hawhorn, Sycamore, Beech.	Av 3.5m	Av 120mm	2m	0m	Mature	Average	Moderate	Boundary hedge that has not been maintained for some time; provides useful screening from adjacent properties; of moderate quality and value.	B
5	Beech	8m	340mm 370mm	5.5mN 5.0mE 2.0mS 3.5mW	2m	Mature	Average	Moderate	Bi-furcates at 750mm high; included bark within union; trunks lean at 10 degrees to the N; of moderate quality and value.	B
6	Sweet Chestnut	8m	540mm	1.5mN 5.0mE 3.5mS 3.0mW	5m	Mature	Below Average	Indifferent	Poor crown conformation; of low quality and value.	C1

Tree No.	Species	Height (M)	Trunk Diameter (MM)	Canopy Spread (M)	Crown Clearance (M)	Age Class	Physiological Condition	Structural Condition	Comments	Category
7	Griselinia	8m	360mm	3m	3m	Mature	Below Average	Indifferent	S section of crown dying back; crown in direct contact with roof of neighbouring property; poor crown conformation; of low quality and value.	C1
8	Griselinia	8m	380mm	4m	2m	Mature	Average	Indifferent	Poor crown conformation; of low quality and value.	C1
9	Sweet chestnut	10m	240mm	3m	7m	Semi Mature	Average	Moderate	No significant visible structural defects; form & structure typical for species and age; of high quality but low value.	C1
10	Sweet chestnut	10m	280mm	3.5m	4m	Semi Mature	Average	Moderate	Asymmetrical crown inclined to S; of low quality and value.	C1
11	Holly	6m	120mm	1.5m	2m	Young	Average	Moderate	Of moderate quality but low value.	C1
12	Holly	6m	110mm	1.5m	2m	Young	Average	Moderate	Of moderate quality but low value.	C1
13	Tulip Tree	12m	600mm	5m	4m	Mature	Average	Moderate	Dominant tree in rear garden; of moderate quality and value.	B

Appendix 2: Tree Constraints Plan



Tree Categories

Trees are categorised in accordance with the cascade chart in Table 1 of the British Standard BS 5837:2005 'Trees in relation to 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.

Root Protection Area

In order to avoid damage to the roots or rooting environment of retained trees, the Root Protection Areas (RPAs) should be 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.

ARBTECH

Consulting Limited

Project:

Harbour view
Marine Walk
Hayling Island
Hants PO11 9PQ

Client:

Mrs L Sawyer

Drawing:

Tree Constraints Plan

Based on:

Ordnance Survey Plan

Drawing No:

Arbtech TCP 01

Rev:

Date:

August 2016

Scale:

1:250 @ A1

Drawn:

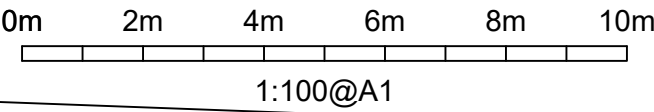
DHA

Key:

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

All dimensions should be checked on site. No dimensions are to be scaled from this drawing. Please notify us if any discrepancies found. Arbtech Consulting Ltd cannot be held responsible for inaccuracies in the base drawing on 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 design or method statement. An architect or structural engineer should be contacted over any matters of construction, detailing or specification and for any standards or regulatory requirements relating to proposed structures, hard surfacing or underground services. This drawing was produced in colour - a monochrome copy should not be relied upon.

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