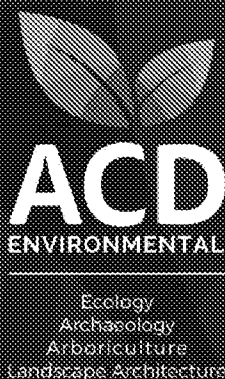


WELLERS CLOSE FELPHAM BOGNOR REGIS

TREE REPORT (Tree survey and constraint advice)



WORTHING
HOMES

Written by:	R. Anderson
Checked by:	M. Welby
Date:	03/01/2018
Ref:	PRI21588tr
Revision:	

Table of Contents

1.0 Executive Summary 3

2.0 Introduction 4

3.0 Scope and Method of Survey 5

4.0 Site..... 6

5.0 Recommendations 8

Appendix 1: Tree Categories Explained 11

Appendix 2: Tree Survey Schedule 12

Appendix 3: Tree Reference Plan..... 14

1.0 Executive Summary

- 1.1. This report provides survey information about the trees on the site at Wellers Close, Felpham, Bognor Regis, in accordance with the recommendations of BS5837:2012 Trees in relation to design, demolition and construction. This is to identify the quality and value of existing trees on the site, allowing decisions to be made as to the retention or removal of trees in the case of any development.
- 1.2. The site is a parcel of land within a much wider development that is in various stages of completion. Currently, the site is open with a golf course to the west, the road to the east and housing to the north and south. Trees within site are located along the edges, predominantly to the east between a paved path and road.
- 1.3. Trees of A and B category should be considered as constraints to development, and every attempt should be made to incorporate them into any proposed development design. Trees of a category C and U will not usually be retained where they would impose a significant constraint to development. Category U trees are often in such a condition that they will be lost within 10 years, and may be removed as good arboricultural practice.

2.0 Introduction

- 2.1. ACD were instructed by Worthing Homes, in November 2017, to survey and categorise the trees at Wellers Close, Felpham, Bognor Regis, in accordance with the British Standard¹. The survey includes all trees with a stem diameter greater than 75mm stem diameter at a height of 1.5m that are on site or close enough to pose a potential constraint to development.
- 2.2. Trees have been assessed for their quality and benefits within the context of proposed development. The quality of each tree or group of trees has been recorded by allocating to it one of four categories. A tree reference plan is provided in order to assist with the design of site layouts.
- 2.3. This report provides the data and advice outlined in the British Standard only. It must not be substituted for a tree risk assessment. Detailed tree inspection including decay mapping, aerial inspection, soil analysis, etc. was not undertaken. If a further detailed inspection is deemed necessary, then it will be made clear within this report.
- 2.4. ACD is aware of two tree preservation orders (TPO's) that cover all the trees on site, with the references, TPO/FP/1/96 and TPO/FP/1/07.
- 2.5. The tree locations are based on the supplied tree survey from tree:fabrik ref: tf 1007/TS/100, dated February 2015.
- 2.6. The controlling authority is Arun District Council, who can be contacted at Arun Civic Centre, Maltravers Road, Littlehampton, West Sussex, BN17 5LF, Tel: 01903 737756.
- 2.7. Any questions relating to the content of this report should be directed in the first instance to ACD Environmental, Courtyard House, Mill Lane, Godalming, Surrey GU7 1EY, 01483 425714, quoting the site address and report reference number.

¹ BSI, 2012. *BS5837 Trees in relation to design, demolition and construction- Recommendations*, London: British Standards Institute.

3.0 Scope and Method of Survey

- 3.1. The survey schedule can be found at Appendix 2.
- 3.2. The survey has been carried out following the recommendations of The British Standard and the trees are assessed objectively and without reference to any site layout proposals. Categories are based on each tree's health and condition, together with an assessment of its life expectancy if its surroundings were to be unchanged.
- 3.3. No discussions took place between the surveyor and any other party.
- 3.4. The reference numbers of surveyed trees and groups of trees are shown on the tree reference plan, which is appended to this report and based on the supplied survey drawing. The prefix G has been used to indicate a group of trees. Stem locations within groups may be estimated, and indicative of canopy only.
- 3.5. The tree survey was carried out from ground level only, with the aid of binoculars as necessary, following the VTA tree assessment method².
- 3.6. Where trees are located on neighbouring land an estimated appraisal has been made of their quality and dimensions. All estimated dimensions are noted in the schedule comments.
- 3.7. Where stems or branches are obscured by ivy or other materials a full assessment of those parts will not be possible.
- 3.8. Tree heights were measured with a clinometer or estimated in relation to those measured with the clinometer. If individual tree heights are of particular concern, for example in shading calculations, then they are measured using a clinometer.
- 3.9. Trunk diameters were measured or, where inaccessible, estimated. Single stemmed trees are measured at 1.5m above ground level.

² Mattheck, C. & Breloer, H., 1998. *The Body Language of Trees: A Handbook for Failure Analysis*. London:H.M.S.O.

3.10. Tree canopies, where markedly asymmetrical, were measured (or estimated by pacing) in four directions using a laser measure. Symmetrical canopies are measured in one direction only, with dimensions in the remaining directions assumed to be similar. For the canopies of groups of trees, the maximum radius for each compass point is measured (more complicated groups will have further notes taken and an accurate representation will be shown on the plan).

3.11. Trees numbered T2, T4, T5 & T6 were not plotted on the original survey and therefore their positions have been estimated in relation to their plotted neighbours.

4.0 Site

4.1. For individual details of the trees see the survey at appendix 2.

4.2. The site is a parcel of land within a much wider development that is in various stages of completion. Currently, the site is open with a golf course to the west, the road to the east and housing to the north and south. Trees within site are located along the edges predominantly to the east between a paved path and road.



Overview of the trees along the eastern side of the site



Overview of category B trees T12 & T13

5.0 Recommendations

- 5.1. Trees of category A and B should be considered as constraints to development and every attempt should be made to incorporate them into any proposed development design. Trees of a category C are of a low value and will not usually be retained where they would impose a significant constraint to development. Category U trees are in such a condition that they will be lost within 10 years, and may be removed as good arboricultural practice.
- 5.2. The British Standard states in section 5.1.1, that the constraints imposed by trees, both above and below ground should inform the site layout design, although it is recognised that the competing needs of development mean that trees are only one factor requiring consideration. Certain trees are of such importance and sensitivity as to be major constraints on development, or to justify its substantial modification. However, care should be taken to avoid misplaced tree retention. Attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.
- 5.3. If the retention of higher category tree would prejudice an otherwise satisfactory design, incorporating replacement planting may provide appropriate mitigation (space for replacement trees must be included within the layout).
- 5.4. Trees can be a development constraint both below and above the ground:
 - 5.4.1. Below ground: root protection areas indicate an area that contains a minimum rooting volume to ensure the survival of the tree. This area of ground should be taken into account within the site layout, such that it can be left undisturbed during demolition and construction by excluding activity from the area using protective barriers.
 - 5.4.2. Tree roots can be easily damaged through root severance. For example, the excavation required for level changes or the laying of strip foundations. They can also be damaged inadvertently through soil compaction that causes asphyxiation of roots. These factors can lead to a decline in overall vigour, die back or even whole tree death.

- 5.4.3. Above ground: tree constraints presented by the canopy and the psychological effects of tree proximity to dwellings (such as shading, perceived threat of tree failure, etc.) must also be considered during layout design. This will involve optimising site layout and building room use to avoid the end-user becoming resentful of the trees and seeking excessive pruning or even tree removal. This is especially a consideration with trees located on southern boundaries.
- 5.4.4. Preferably, conflicts between proposed structures and RPAs and tree canopies should be 'designed out' through the careful positioning of any built form. It is, therefore, advisable that any design layouts are drafted in close collaboration with ACD to ensure that any trees that are highlighted for retention can be realistically integrated into the design.
- 5.5. Given the trees are located along the edge of the site, it would be possible to develop within the interior whilst having little impact on the trees. the access road from the east will need to be carefully located to be able to successfully retain the higher category trees along this side.
- 5.6. When a final layout is agreed, an arboricultural impact assessment (AIA) should be completed to discuss arboricultural issues within the scheme, and demonstrate to the Local Planning Authority the viability of the layout.
- 5.7. Surgery may be required in order to allow trees to be retained close to structures, to allow access for construction or for future site traffic, or in the interests of the future health and safety of the trees and users of the site. Detailed recommendations for surgery can be provided once a final site layout is agreed, and it is determined which trees are to be retained. All surgery should comply with BS3998³ or more recently accepted good arboricultural practice.
- 5.8. Before any works start on site, including demolition, an arboricultural method statement (AMS) and tree protection plan (TPP) should be submitted, approved and implemented. There must be no changes in levels, service routeing, machine activity,

³ BSI, 2010. *BS3998- Recommendations for Tree Work*, London: British Standards Institute.

storage of materials or site hut positioning within the RPAs. The tree protection measures must remain in position for the duration of the construction process.

- 5.9. We recommend that a representative of ACD, or an alternative consultant acceptable to the local planning authority (LPA), monitor the tree protection measures throughout the development, and supervise any work within RPAs and approved protection areas.
- 5.10. If trees on the site are protected by a Tree Preservation Order (TPO), consent for any required works to protected trees should be obtained from the local planning authority prior to being carried out. Consent is not required for urgent work to dead or dangerous trees, but the local planning authority should be given at least five days' notice of the intended works. Consent is not required to work on TPO trees if that work has been consented as part of a full planning application. Replacement trees may be required for any protected trees that are felled. If the site is in a conservation area, six weeks' notice of works to all trees should be given.
- 5.11. Notice must also be taken that it is an offence⁴ to disturb a nesting bird or roosting/breeding bat. Further advice, particularly if bats are discovered during tree work should be obtained from ACD.

Robert Anderson FdSc, Nd Arb, MArborA
Arboriculturist

03 January 2018

LIMITATIONS OF USE AND COPYRIGHT

All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, or stored in any retrieval system of any nature, without our written permission. Its content and format are for the exclusive use of the addressee in dealing with Wellers Close, Felpham, Bognor Regis. Until all invoices rendered by ACD Environmental to the Client have been paid in full, the copyright of any documents, forms, statements, maps, plans and other such material will remain vested in ACD Environmental and no unauthorised use of such material may be made by the Client or any person purporting to be acting on his/her behalf. It may not be sold, lent, hired out or divulged to any third party not directly involved in this site without the written consent of ACD Environmental ©

⁴ Wildlife and Countryside Act (Anon., 2000) & Countryside and Rights of Way Act (Anon., 1981)

Appendix 1: Tree Categories Explained

BS5837:2012 Table 1 -Cascade chart for tree quality assessment			
Category and definition		Criteria (including subcategories where appropriate)	
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 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 it 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 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, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	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 though remediable 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 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
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		Trees with material conservation or other cultural value	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories
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		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 benefits	Trees with no material conservation or other cultural value

CLIENT: Worthing Homes
 SITE: Wellers Close, Felpham, Bognor Regis
 DATE: Dec 2017

SURVEYOR: R. Anderson

TAGGED? No

Appendix 2: Tree Survey Schedule

No.	Name	Ht (crown)	Dia (stems)	Crown spread (NESW)	Life stage	ERC	Comments & preliminary recommendations	BS Cat
T1	Quercus robur (Common Oak)	14(1)	730(1)	8.5, 8, 8, 7	M	20+	Scattered minor dead wood throughout crown.	B2
T2	Crataegus monogyna (Hawthorn)	7(0)	150(2)	2.5, 2.5, 2.5, 3	M	10+	Plotted by eye on plan. Multiple stems at ground level. Ivy on stem. suppressed understory	C2
T3	Quercus robur (Common Oak)	14(1)	440(1)	4, 7, 3, 5.55	M	20+	Crown distorted due to group pressure. Stem has two 90 degree changes.	B2
T4	Crataegus monogyna (Hawthorn)	7(0)	160(2)	3, 4, 2, 3	M	10+	Plotted by eye on plan. Multiple stems at ground level. Ivy on stem. suppressed understory	C2
T5	Crataegus monogyna (Hawthorn)	8(0)	210(1)	2.5, 2.5, 2.5, 2.5	M	10+	Plotted by eye on plan. Ivy on stem. Diameter measured over ivy.	C2
T6	Crataegus monogyna (Hawthorn)	8(0)	150(3)	2.5, 2.5, 2.5, 2.5	M	10+	Plotted by eye on plan. Ivy on stem. Diameter is estimated average.	C2
T7	Quercus robur (Common Oak)	13(1)	430(1)	5, 5, 5.5, 8	M	20+	Low vigour/poor extension growth. Diameter measured over ivy.	B1
T8	Quercus robur (Common Oak)	8(1)	520(1)	5, 7.5, 7, 6	M	20+	Ivy on stem. Broken branches in crown. Diameter measured over ivy.	B1
T9	Quercus robur (Common Oak)	12(1)	460(1)	5, 5, 5, 9	M	20+	Diameter measured over ivy. one sided crown to east with one scaffold directed to east	B1
T10	Quercus robur (Common Oak)	8(2)	230(1)	2.5, 2.5, 2.5, 6	EM	<10	Low vigour/poor extension growth. Scattered deadwood. Sparse foliage.	U
T11	Quercus robur (Common Oak)	8(1)	280(1)	4, 2, 4, 4	M	20+	Scattered deadwood.	C1
T12	Quercus robur (Common Oak)	15(2)	490,740(2)	8, 7, 8.5, 6	M	20+	Multiple stems at ground level. Low vitality. Epicormic shoots throughout crown.	B2
T13	Quercus robur (Common Oak)	14(3)	760(1)	8, 0, 8, 9	M	20+	Epicormic shoots throughout crown. One sided crown: supressed by adjacent specimen.	B2
T14	Fraxinus excelsior (Ash)	15(2)	430(3)	3, 6, 7, 6	M	20+	Ivy on stem. Diameter is estimated average. historically 5 stems 2 have been removed	B2

Notes: Dia (stem) trunk diameter in mm at 1.5m above ground level (number of stems) | HT (crown): Tree height in m (crown clearance in m) | Life stage: Y: Young (obviously planted within the last three years (unless as a heavy or extra-heavy merchant)), SM: Semi-mature (recently planted and yet to attain mature stature, up to 25% of attainable age), EM: Early mature (almost full height, crown still developing and seed bearing, up to 50% of attainable age), M: Mature (full height, crown spread, seed-bearing; over 50% of attainable age), OM: Over mature (full size, die-back, small leaf size, poor growth extension), | ERC: Expected remaining contribution in years: <10, 10+, 20+, 40+ (assuming that there will be no physical changes to its immediate environment) | BS Category: Refer to appendix 1 of this report or BS5837:2012 Table 1 for detailed descriptions.

Page | 12

CLIENT: Worthing Homes
 SITE: Wellers Close, Felpham, Bognor Regis
 DATE: Dec 2017

SURVEYOR: R. Anderson

TAGGED? No

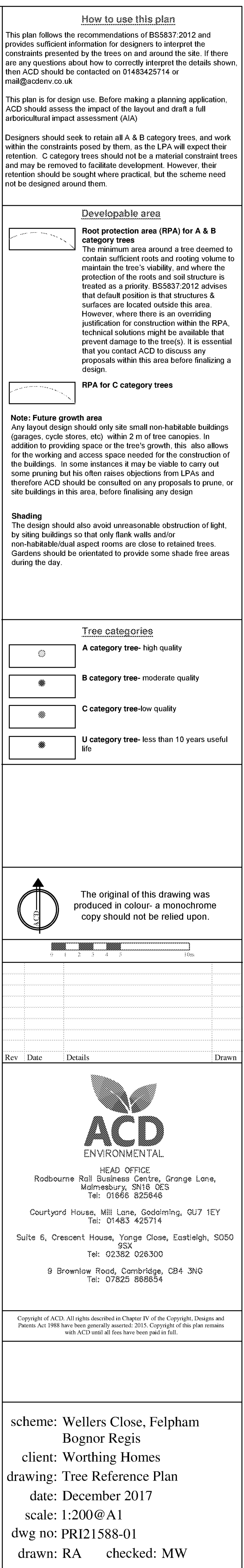
No.	Name	Ht (crown)	Dia (stems)	Crown spread (NESW)	Life stage	ERC	Comments & preliminary recommendations	BS Cat
G15	X Cupressocyparis leylandii (Leyland Cypress),Acer campestre (Field Maple),Corylus avellana (Hazel)	7(0)	350(1)	As indicated on plan	M	20+	Linear group growing off site, provide screening to golf course	C2

Notes: Dia (primary trunk diameter in mm at 1.5m above ground level (number of stems) | HT (crown): Tree height in m (crown clearance in m) | Life stage: Y: Young (obviously planted within the last three years (unless as a heavy or extra-heavy merchant)). SM: Semi-mature (recently planted and yet to attain mature stature, up to 25% of attainable age.) EM: Early mature (almost full height, crown still developing and seed bearing, up to 50% of attainable age.) M: Mature (full height, crown spread, seed-bearing; over 50% of attainable age.) OM: Over mature (full size, die-back, small leaf size, poor growth extension.) | ERC: Expected remaining contribution in years- <10, 10+, 20+, 40+ (assuming that there will be no physical changes to its immediate environment.) BS Category: Refer to appendix 1 of this report or BS5637:2012 Table 1 for detailed descriptions.

Page | 13

Appendix 3: Tree Reference Plan

PRI21588-01





Head Office

Rodbourne Rail Business Centre
Grange Lane
Malmesbury
SN16 0ES



Surrey Office

Courtyard House
Mill Lane
Godalming
GU7 1EY



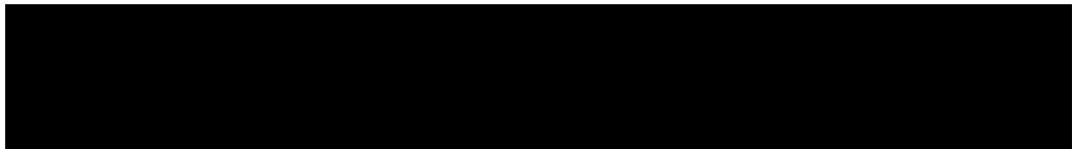
Hampshire Office

Suite 6
Crescent House
Yonge Close
Eastleigh
SO50 9SX



Cambridgeshire Office

9 Brownlow Road
Cambridge
CB4 3NG



ECOLOGICAL SURVEYS * PROTECTED SPECIES LICENSING * MITIGATION * IMPACT ASSESSMENT
ARBORICULTURAL SITE MONITORING AND SUPERVISION * ARCHAEOLOGY
LANDSCAPE & VISUAL IMPACT ASSESSMENT * LANDSCAPE AUDIT * PROJECT MANAGEMENT
EXPERT WITNESS* LANDSCAPE DESIGN & PLANNING LANDSCAPE MANAGEMENT