



BS5837:2012

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

Arboricultural Impact Assessment

for

Dorothy and Stephen Richardson

at

11 Moor Court,

Whitburn,

Sunderland,

SR6 7JU

14 December 2021

Author: Alan Thompson FdSc. (Arb.), M.Arbor.A.

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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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Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 30th of November 2021 from Dorothy and Stephen Richardson to attend 11 Moor Court, Whitburn, Sunderland, SR6 7JU; grid reference, NZ 40285 61813 (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 a Tree Constraints Plan & Arboricultural Impact Assessment.

Executive Summary

This report describes the extent and effect of the proposed development at the site on individual trees and groups of trees within and adjacent to the site.

Figure 1: Aerial Image of site (Bing Maps)



Trees within the site were surveyed; using a methodology guided by British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' ("BS5837").

Subsequently, this report has been produced, balancing the layout of the proposed development against the competing needs of trees. This report comprises all of the requisite elements of an arboricultural implications assessment, method statement and supporting plans.

General Information

Client: Dorothy and Stephen Richardson

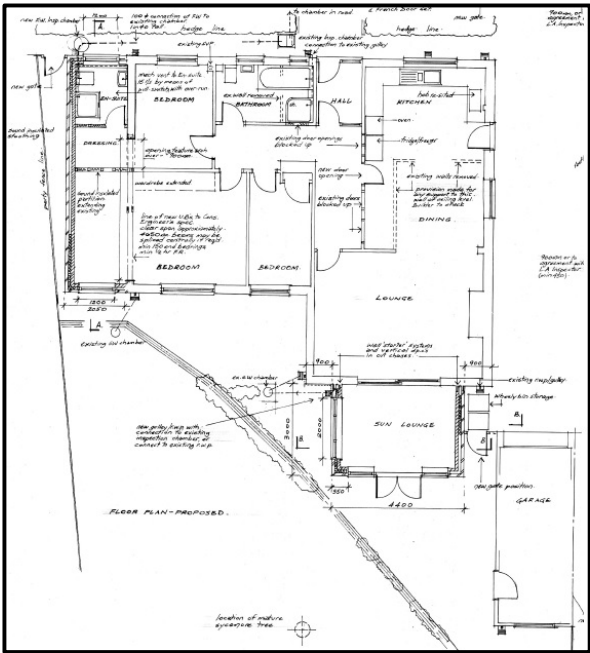
Site: 11 Moor Court, Whitburn, Sunderland, SR6 7JU

Brief proposal description: Construction of sunlounge & single storey side extension to existing residential property.

Table 1: Documents referred to.

Document	Reference No.
Ordnance Survey Base Plan	11 Moor Court
Proposed layout drawing	Proposed Extension – SR.2
LPA pre-app comments	N/A
British Standard 5837:2012	“BS5837”
Arboricultural Impact Assessment	Arbtech AIA 01

Proposal



Tree Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Charlie Moore of Arbtech Consulting on 3rd December 2021.

A total of 4 (No.) individual trees, 2 (No.) hedges and 1 (No.) group of trees were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees (see Appendix 1)

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

Document	Originator	Reference Number	Title
OS Tile	Malcolm Hughes Land Surveyors	-	11 Moor Court

Limitations: The survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and 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.

Arboricultural Impact Assessment

Table 3: Documents upon which this assessment has been based

Document	Originator	Reference Number	Title
OS Tile	Malcolm Hughes Land Surveyors	-	11 Moor Court
Proposal	Architect	SR.2	Proposed Extension

There are a number of issues that may need to be addressed in an arboricultural impact assessment between the trees and the proposed development, these are as follows:

- The effect and extent of the proposed development within the root protection areas (RPAs) of retained trees;
- The potential conflicts of the proposed development with canopies of retained trees; and
- The likelihood of any future remedial works to retained trees beyond which would have been scheduled as a part of usual management.

Table 4: Impacts upon the RPAs of retained trees

These impacts can be seen on the Arboricultural Impact Assessment drawing number Arbtech AIA 01.

Tree Number	Species	Structure	Incursion
T02	Sycamore	Sun lounge	1% of RPA
T04	Purple plum	Side extension	1% of RPA

The excavations caused by the two minor excavations are recommended to be carried out under arboricultural supervision.

Trees to be removed

The proposal does not require the removal of any trees.

A breakdown of all tree removals and pruning works can be seen in Table 7: Summary of Tree Works

Table 5: Number of individual trees to be removed.

U	A	B	C
0	0	0	0

Table 6: Number of groups to be removed. () indicates partial removal.

U	A	B	C
0	0	0	0

Tree Works

For reasons of public safety, all tree works referred to herein must be carried out prior to any site personnel commencing works or any building materials being delivered.

Table 7: Summary of Tree Works

No.	Species	Works	Category
T01	Cherry	Prune tree's canopy to give clearance to facilitate construction of side extension	C1

Notes

All tree work is to be undertaken in accordance with British Standard BS 3998:2010, Recommendations for tree work. All arising's are to be removed and the site is to be left as found. Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. No equipment or vehicles such as timber Lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

Protected Species

Conservation Status of British Bats

The general consensus in Britain and Europe is that virtually all bat species are declining and vulnerable. Our understanding of population status is poor as there is very little historical data for most bat species. Certain species, such as the horseshoe bats, are better understood and have well documented contractions in range and population size.

Given this general picture of decline in UK Government within the UK Biodiversity Action Plan has designated five species of bats as priority species (greater and lesser horseshoe bats, barbastelle, Bechstein's and pipistrelle). These plans provide an action pathway whereby the maintenance and restoration of the former populations levels are investigated.

Legal Status of British Bats

Given the above position all British bats as well as their breeding sites and resting places enjoy national and international protection.

All bat species in the UK are fully protected under the Wildlife and Countryside Act 1981 (as amended) through inclusion in Schedule 5. All bats are also listed on Annex IV (and some on Annex II) of the EC Habitats Directive giving further, European protection. Taken together the act and Conservation of Habitats and Species Regulations 2012 (as amended)* make it an offence to; intentionally or deliberately kill, injure or capture (take) bats;

- Deliberately disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts;
- Possess or transport a bat or any part of a bat, unless acquired legally;
- Sell, barter or exchange bats, or parts of bats

The legislation although not strictly affording protection to foraging grounds does protect roost sites. Bat roosts are protected at all times of the year whether or not bats are present. Any disturbance of a roost due to development must be licenced.

**the regulations that delivered by the UK's commitments to the Habitats Directive.*

Breeding birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore a number of birds enjoy further protection under that Act and are listed on Schedule 1 of the Act. These further protected birds are also protected from disturbance and it may be necessary to operate “no-go” buffer zones around such nests – typically out to 100m.

Planning policy guidance on the treatment of species identified as priorities under the biodiversity action programme suggests that local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents and should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations. The conservation of these species should be promoted through the incorporation of

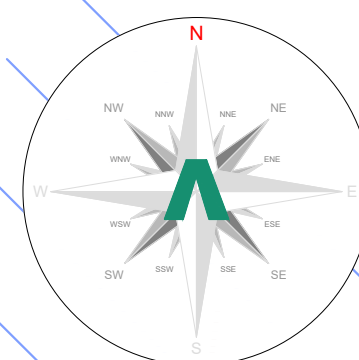
Appendix 1: Arboricultural Impact Assessment Plan

MOOR COURT

Note: No unauthorised excavations are to be carried out within the RPAs of any retained trees. Any level changes must form part of a construction method statement & must protect the rooting environments of all retained trees.

Issue: Proposed sun lounge is partially situated within the RPA of tree no.T02
Solution: Excavation within RPA is to be carried out under arboricultural supervision.

Issue: Proposed side extension is partially situated within the RPA of tree no.T04
Solution: Excavation within RPA is to be carried out under arboricultural supervision.



Tree Categories

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.

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.

Arboricultural Impacts

Impacts	Nos. of trees
Trees to be removed	0
Groups / Hedges to be removed (Partial removal of groups)	0 (0)
Trees with proposed incursions into RPAs	2
Groups / Hedges with proposed incursions into RPAs	0
Trees that will require pruning	1
Groups / Hedges that will require pruning	0
Trees to be transplanted	0
Groups / Hedges to be transplanted	0

No.	Species	Proposed structure	Incursion
T02	Sycamore	Sun lounge	1% of RPA
T04	Purple plum	Side extension	1% of RPA

Tree Work Schedule

No.	Species	Works	Category
T01	Cherry	Prune to give clearance to facilitate construction of single storey side extension	C+

All tree work is to be undertaken in accordance with British Standard BS 3998:2010 'Tree work - Recommendations'.
All arising's are to be removed and the site is to be left as found.
Care is to be taken of the ground around retained trees to make sure that it does not become compacted as a result of tree surgery operations. No equipment or vehicles such as timber lorries, tractors, excavators or cranes shall be parked or driven beneath the crowns of any retained trees, to prevent subsequent compaction and root death.

No. of individual trees to be removed

U	A	B	C
0	0	0	0

No. of groups / hedges to be removed

U	A	B	C
0 (0)	0 (0)	0 (0)	0 (0)

() = Partial removal of a groups

Arboricultural Method Statement

All tree work is to be undertaken in accordance with British Standard BS 3998:2010 'Tree work - Recommendations'.
Please refer to Arbtch Consulting Ltd. Tree Schedule, Arboricultural Method Statement and Tree Protection Plan, for full details of all surveyed trees and how all aspects of the development may be implemented without detriment to retained trees.



Unit 3, Well House Barns, Chester, CH4 0DH
<https://arbtch.co.uk>, 01244 661170

Project: 11 Moor Court, Whitburn, Sunderland, SR6 7JU

Client: Dorothy and Stephen Richardson

Drawing: Arboricultural Impact Assessment

Based on: Proposed Extension - SR.2

Drawing No: Arbtch AIA 01

Date: Dec 2021

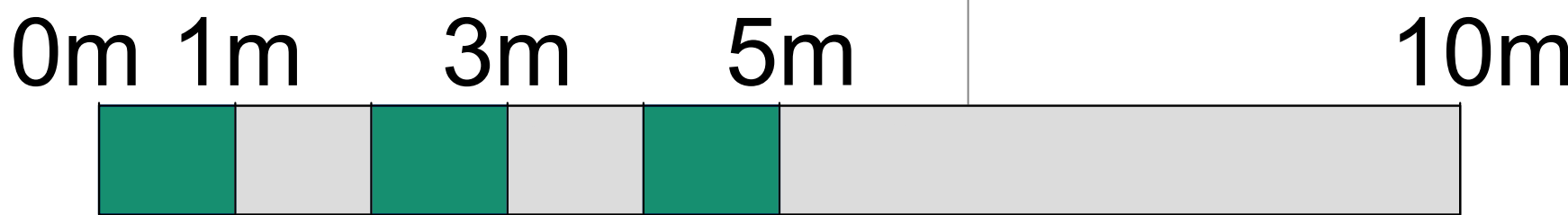
Scale: 1:50 @ A1

Drawn: AST

Tree Nos.:	T01	Tree Canopies:	Trunks:	
RPAs:		Category 'B' trees:	Category 'B' groups:	
Category 'C' trees:		Category 'C' groups:	Incursion - Structures:	

All dimensions should be checked on site. No dimensions are to be scaled from this drawing.
Please notify us of any discrepancies found. Arbtch Consulting Ltd. 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 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, their siting or underground services.
This drawing was produced in colour - a monochrome copy should not be relied upon.

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Appendix 2: Tree Survey Schedule

BS5837:2012 Tree Survey

Arbtech Consulting Ltd

Client: Dorothy and Stephen Richardson
 Project: 11 Moor Court, Whitburn, Sunderland, SR6 7JU
 Survey Date: 03/12/2021
 Surveyor: Charlie Moore



Unit 3, Well House Barns
 Chester Road
 Chester
 Cheshire
 CH4 0DH
 Phone: 01244661170

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment			
G01												Estimated Measurements		
Various		17	1	400	N	5	4	M	A: 72.4	Good	C: Good			B.2
See comments for details					E	4	4		R: 4.8		S: Not visible	Offsite boundary group comprised of approximately 10 multi and single stemmed sycamores; all trees within group are well maintained - historically and recently crown lifted - wounds range from 60mm to 150mm - occlusion ranges from full to approximately 10 percent; recent crown reduction work to the trees located to the north of the group, over the boundary line - reduced approximately by 2m - wounds approximately 60mm diameter - no occlusion visible; recorded dimensions denote the maximum measurements of the group - heights range from 16m to 18m - stem diameters between 320mm and 400mm.		20+ yrs
					S	6	4				B: Not visible			
					W	6	4							
H01												Estimated Measurements		
Various		5	1	120	N	1.5	1.8	EM	A: 6.5	Good	C: Good			C.2
See comments for details					E	1.5	1		R: 1.43		S: Not visible	Offsite laurel hedge; regularly maintained with hedge cutters - reduced in height on the southern stretch to 2m; unable to thoroughly inspect the stem and base of the hedge due to obstruction caused by the boundary fence.		20+ yrs
					S	1.5	1				B: Not visible			
					W	1.5	1.8							
H02												Estimated Measurements		
Various		3.5	1	100	N	0.5	0	SM	A: 4.5	Good	C: Good			C.2
See comments for details					E	0.5	0		R: 1.19		S: Not visible	Onsite boundary Leyland's cypress hedge; regularly maintained with hedge cutters; recorded dimensions denote the maximum measurements for this hedge - stem diameters between 80mm and 100mm.		20+ yrs
					S	0.5	0				B: Not visible			
					W	0.5	0							
Age Classifications:		N	Newly planted	EM	Early Mature		Condition:		C	Crown	Stems:		Ø	Diameter
	Y	Young	M	Mature					S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition
	SM	Semi-mature	OM	Over Mature					B	Basal area	ERC:		Estimated Remaining Contributio	

Tree and Tag No Species		Hght (m)	Stems		Crown		Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations			Cat ERC	
			No	Ø (mm)	Spread (m)	Clear (m)					Survey Comment				
T01												Estimated Measurements			
Wild Cherry <i>Prunus avium</i>		6.5	1	110	N	3	2	Y	A: 5.5	Good	C: Good			C.1	
					E	3	2		R: 1.32		S: Not visible	Offsite tree; unable to thoroughly inspect the stem and base due to obstruction caused by the boundary fence; asymmetrical crown distribution due to neighbouring hedge.		20+ yrs	
					S	2.5	2				B: Not visible				
					W	2	2								
T02													Estimated Measurements		
Sycamore <i>Acer pseudoplatanus</i>		14	1	500	N	4	6	M	A: 113.1	Good	C: Good			B.1	
					E	4	6		R: 6		S: Good	Tree preservation order present on this tree; located in amenity grassland; historic pruning wound at 2m on south side of stem, approximately 200mm diameter - fully occluded; historic pruning wound to the north side of stem at 3m - approximately 210mm diameter - now occluded to approximately 90mm - cavity approximately less than 60mm deep forming; crown lifting works from 3m to 4m - wounds between approximately 100mm and 150mm - no occlusion due to stable dead pegs.		20+ yrs	
					S	4.5	6				B: Good				
					W	5.5	6								
T03													Estimated Measurements		
Common or Black Elder <i>Sambucas nigra</i>		4	1	120	N	2	2	SM	A: 6.5	Good	C: Good			C.1	
					E	2	2		R: 1.43		S: Not visible	Offsite tree; unable to thoroughly inspect the stem and base due to obstruction caused by boundary fence; multi stemmed from base - stem diameters between 100mm and 120mm; crown reduction pruning throughout the lower crown - wounds less than 20mm diameter.		20+ yrs	
					S	2	2				B: Not visible				
					W	2	2								
T04													Estimated Measurements		
Myrobalan Plum 'Nigra' <i>Prunus cerasifera 'Nigra'</i>		4.5	1	170	N	0.5	2	SM	A: 13.1	Good	C: Fair			C.1	
					E	2.5	2		R: 2.04		S: Not visible	Offsite tree; unable to thoroughly inspect the stem and base due to obstruction caused by boundary fence; multi stemmed from base - diameters between 150mm and 170mm; asymmetrical crown distribution due to reduction work to the north to clear the property boundary - wounds less than 25mm - no occlusion visible.		20+ yrs	
					S	2.5	2				B: Not visible				
					W	2.5	2								
Age Classifications:		N	Newly planted	EM	Early Mature		Condition:		C	Crown	Stems:		Ø	Diameter	
		Y	Young	M	Mature				S	Stem			(Eq)	Equivalent stem diameter using BS5837:2012 definition	
		SM	Semi-mature	OM	Over Mature				B	Basal area	ERC:		Estimated Remaining Contributio		

Appendix 3: Contact Details

Name	Position	Company	Contact
Dorothy & Stephen Richardson	Client		
	Tree Officer		
Alan Thompson	Arboricultural Consultant	Arbtech Consulting Ltd.	01244 661170 07703 676216 at@arbtech.co.uk
	Site Manager		
	Main contractor		

Document Production Record

Document number	Editor	Signature	Position	Issue number	Date
Arbtech AIA 01	Alan Thompson		Arboricultural Consultant	1	14/12/2021

Limitations

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