ARBTECH

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

Tree Survey

Mr. Scott Golbourne

115 Walsall Road

Sutton Coldfield

Staffordshire

B74 3AY

03 November 2020

Author: Max Bell 'BSc (Hons)' Arboriculture

Introduction

Arbtech Consulting Limited (Arbtech) received written instruction on 20 October 2020 from Scott Golbourne to attend 115 Walsall Road, Sutton Coldfield, B74 3AY; grid reference, SP 09623 99946 (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 Max Bell, an arboricultural surveyor at Arbtech Consulting Ltd. I undertook the tree survey on the 2 November 2020 and subsequently have produced this summary of my findings.

I hold a BSc (Hons) in arboriculture and have professional experience in the industry spanning seven years.

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	10016-000
LPA pre-app comments	N/A
British Standard 5837:2012	“BS5837”
Tree Survey Schedule	Arbtech TS 01
Tree Constraints Plan	Arbtech TCP 01

Tree Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by Max Bell on 2 November 2020.

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 twenty five (25) individual trees and five (5) groups of trees 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
Site Location Plan	Three30	10016-000	Site Location Plan

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.

Site description

The site is located on Walsall road, comprised of a single dwelling with associated front and rear gardens. The gardens are comprised of scattered trees, with hedge lines separating the property boundaries at the front, and some small understory groups with some larger specimen trees within the rear. The site is broadly level, with no dramatic changes in land level.

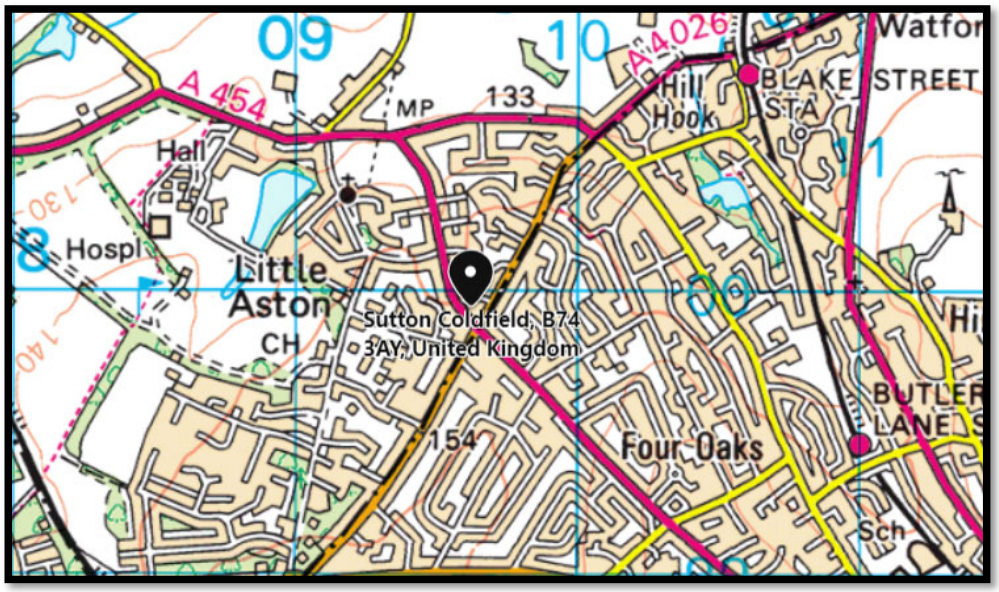

Figure 1: OS Map (Bing Maps)

Figure 2: Aerial Image of site (Google Maps)

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

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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.

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:

I. reference number (to be recorded on the tree survey plan);
II. species (common or scientific names);
III. height in meters (m);
IV. stem diameter in millimeters (mm) at 1.5 m above adjacent ground level or immediately above the root flare for multi-stemmed trees;
V. branch spread in meters taken at the four cardinal compass points;
VI. height of crown clearance above adjacent ground level in meters (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 (see Table 1 Cascade chart for tree quality assessment).

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 (.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.

Recommendations

We have not seen the proposed scheme and 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); 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 (.dwg & .pdf)

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

Yours Sincerely,

Signature

Max Bell
Consultant
07719549550
maxbell@arbtech.co.uk

Appendix 1: Table 1 Cascade chart for tree quality assessment

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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 *NOTE Category U trees can have existing or potential conservation value which might be desirable to preserve; see 4.5.7.*			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

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Appendix 2: Schedule of Trees

BS5837:2012 Tree Survey

Arbtech Consulting Ltd.
Unit 3, Well House Barns
Chester Road
Chester
Cheshire
CH4 0DH
Phone: 01244 66 11 70

Client: Scott Golbourne
Project: 115 Walsall Road, B74 3AY
Survey Date: 02/11/2020 - 09/11/2020
Surveyor: Max Bell

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
G1											
A Group *See comments for details*	9	1	300	N 1 E 1 S 1 W 1	2 2 1 1	Y	A: 40.7 R: 3.59	Good	C: Good S: Good B: Good	Small group comprised of 2 Lawson cypress and one yew. Group form unified crown, however are suppressed from larger more established trees on boundary line.	C.2 10+ yrs
G2										Estimated Measurements	
A Group *See comments for details*	9	1	460	N 3 E 3 S 1 W 2	2 1 1.5 1	M	A: 95.7 R: 5.51	Good	C: Good S: Good B: Good	Group located on boundary line to the west of site within neighbouring property's boundary. Comprised of mainly Lawson cypress, the group provides screening but is of low amenity value. The biggest tree within the group has ivy growing throughout canopy, overhanging clients property by approx. 3m. Unable to carry out detailed inspection of group due to restricted access.	C.2 20+ yrs
G3											
A Group *See comments for details*	5	1	120	N 2 E 2 S 2 W 2	0 0 0 0	SM	A: 6.5 R: 1.43	Good	C: Good S: Good B: Good	Group located on the north-western boundary. Comprised of conifer, Rhododendron, yew, holly and laurel. Creates an under storey for trees and provides screening. Appears to be maintained and pruned back client side.	C.2 20+ yrs
G4											
A Group *See comments for details*	4	1	90	N 1.5 E 1.5 S 1.5 W 1.5	1.5 1.5 1.5 1.5	SM	A: 3.7 R: 1.08	Good	C: Good S: Good B: Good	Group of Laurel located at rear of residentual garden. Provides screening from fence but of low amenity value.	C.2 10+ yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
G5											
A Group *See comments for details*	2	1	80	N 0.5 E 0.5 S 0.5 W 0.5	0.5 0.5 0.5 0.5	Y	A: 2.9 R: 0.96	Good	C: Good S: Good B: Good	Group located on boundary line leading to residential property. Provides screening but of low amenity value.	**C.2** 10+ yrs
T1											
Western Red Cedar *Thuja plicata*	7	1	310	N 1 E 1 S 1 W 1	1 1 1.5 1	Y	A: 43.5 R: 3.72	Good	C: Good S: Good B: Good	Western red cedar located adjacent public highway and footpath at southern corner of site boundary. Good example of species with high amenity value.	**C.1** 20+ yrs
T2										Estimated Measurements	
Lawson Cypress *Chamaecyparis lawsoniana*	15	1	450	N 2 E 2 S 1.5 W 1	1 1 1 1	EM	A: 91.6 R: 5.39	Good	C: Good S: Good B: Good	Located along southeast boundary line. Provides screening from neighbouring property. Main stem bifurcates, with smaller diameter stem predominantly growing over site.	**C.2** 20+ yrs
T3											
Leyland Cypress *X Cupressocyparis leylandii*	10	2	434 (Eq)	N 1 E 1 S 0 W 1	1.5 2 3 1.5	SM	A: 85.3 R: 5.21	Good	C: Good S: Good B: Good	Tree located along southeast boundary line of site. Main stem forks at approx 800mm into two co dominant stems. Crown heavily suppressed on southern side my neighbouring tree.	**C.2** 20+ yrs
T4											
Cherry Laurel *Prunus laurocerasus*	4	1	200	N 1 E 0.5 S 2 W 0.5	1 1 1 1	SM	A: 18.1 R: 2.4	Good	C: Fair S: Good B: Good	Laurel situated on southeast boundary line. Provides screening to neighbouring property. Has been heavily pruned over site to reduce overhang and excessive growth. Provides screening but of low amenity value.	**C.2** 10+ yrs
T5											
Common Holly *Ilex aquifolium*	6	3	217 (Eq)	N 1 E 1 S 1 W 1	2 2 2 2	Y	A: 21.2 R: 2.59	Good	C: Good S: Good B: Good	Tree located on southeast boundary line of site adjacent garage. Main stem forks into three co dominant stems at 700mm from ground level.	**C.2** 20+ yrs

Age Classifications: N Newly planted; EM Early Mature; Y Young; M Mature; SM Semi-mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T6											
Norway Spruce *Picea abies*	16	1	560	N 5.5 E 5.5 S 5.5 W 5	3.5 3 2 3.5	M	A: 141.9 R: 6.72	Good	C: Good S: Good B: Good	Boundary Tree. Tree located on south boundary line adjacent public highway and footpath. Tree of high amenity value. Evidence of pruning works on main stem (crown has been raised to approx. 5m) . Some snapped out branches within upper crown but minimal. Well balanced crown.	**B.1** 20+ yrs
T7											
Leyland Cypress *X Cupressocyparis leylandii*	9	2	794 (Eq)	N 2 E 4 S 4.5 W 3.5	2.5 2 2 2.5	M	A: 285.2 R: 9.52	Good	C: Fair S: Good B: Good	Tree located in corner of driveway at southwestern point of boundary adjacent public highway and footpath. Main stem forks at 100mm from ground level in 2 co- dominant stems. Tree recently topped at 9m in height in keeping with the other trees on the treeline separating property boundaries.	**C.2** 20+ yrs
T8											
Cedar *Cedrus sp.*	9	1	810	N 4 E 3 S 4.2 W 0.5	2.5 2.5 3 2	M	A: 296.9 R: 9.72	Good	C: Fair S: Good B: Good	Western red cedar located along southwestern boundary line. Main stem forks into 3 co- dominant stems at 170mm from ground level. Height has been reduced in keeping with other trees on boundary line providing screening.	**C.2** 20+ yrs
T9											
Leyland Cypress *X Cupressocyparis leylandii*	9	2	599 (Eq)	N 0.5 E 3 S 1 W 0	2 3 4 0	M	A: 162.4 R: 7.18	Good	C: Fair S: Good B: Good	Tree located along southwestern boundary line separating properties. Main stem forks to form 2 co- dominant stems at 100mm from ground level. Crown heavily suppressed from neighbouring tree on western crown side. Tree has been reduced in height in keeping with other trees on boundary line.	**C.2** 10+ yrs
T10											
Lawson Cypress *Chamaecyparis lawsoniana*	9	2	313 (Eq)	N 2 E 2 S 3 W 3	3 2 2 2	M	A: 44.2 R: 3.75	Good	C: Good S: Good B: Good	Tree located adjacent corner of property within tree line on southwestern boundary line separating properties. Main stem forks at 114mm from ground level to form 2 co- dominant stems. Height has been reduced in line with surrounding trees within tree line on boundary.	**C.2** 20+ yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T11											
Common Hazel *Corylus avellana*	6	10	443 (Eq)	N 4 E 5 S 4 W 2	3 2 4 5	M	A: 88.7 R: 5.31	Good	C: Good S: Good B: Good	Mature hazel coppice located in corner of tree line on southwest boundary line. Crown physically touching clients property.	C.2 20+ yrs
T12											
Silver Birch *Betula pendula*	11	1	400	N 0.5 E 5 S 6 W 3	5 4.5 6 6	M	A: 72.4 R: 4.8	Poor	C: Fair S: Ivy B: Not visible	Tree located on north-western boundary line adjacent fence line. Heavily clad in ivy from base running up main stem to where structural canopy begins. Crown suppressed on north from neighbouring tree. Very low foliage density through crown.	U.2 <10 yrs
T13											
Prunus *Prunus sp.*	4	1	450	N 2 E 3 S 3 W 1	1 0.5 1 1	M	A: 91.6 R: 5.39	Dead	C: Poor S: Poor B: Poor	Dead cherry heavily clad in ivy. No amenity value.	U n/a
T14											
Silver Birch *Betula pendula*	12	1	380	N 1 E 5 S 5 W 4	6 7 8 8	SM	A: 65.3 R: 4.55	Fair	C: Fair S: Good B: Good	Located on north-western boundary within group of conifer. Some minor deadwood within canopy.	C.1 10+ yrs
T15											
Silver Birch *Betula pendula*	11	1	340	N 2 E 2 S 1 W 2	5 5 6 5	SM	A: 52.3 R: 4.08	Good	C: Good S: Good B: Good	Located on north-western boundary line within lower story group of conifer. Stem forks at approx. 400mm to form 2 co-dominant stems. Well balanced crown given its location and proximity to surrounding trees.	C.2 20+ yrs

Age Classifications: N Newly planted; EM Early Mature; Y Young; M Mature; SM Semi-mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T16											
Scots Pine *Pinus sylvestris*	16	1	690	N 4.5 E 5.2 S 7.8 W 4.5	8 7 4 7	M	A: 215.4 R: 8.28	Good	C: Good S: Good B: Good	Located to the northern corner of the site, this tree has good amenity value and is a good example of its species. Some historic pruning works evident and a small amount of small diameter deadwood within canopy.	**A.1** 40+ yrs
T17										Estimated Measurements	
Common Beech *Fagus sylvatica*	14	1	400	N 5 E 7 S 6 W 6	8 8 6 8	SM	A: 72.4 R: 4.8	Good	C: Good S: Not Visable B: Not Visable	Offsite tree. Unable to carry out detailed inspection due to restricted access. Main stem not viasble untill approx 7ft from ground level due to fence.	**B.1** 40+ yrs
T18										Estimated Measurements	
Common Beech *Fagus sylvatica*	14	1	400	N 5 E 6 S 6 W 7	5 4 4 4	SM	A: 72.4 R: 4.8	Good	C: Good S: Not Visable B: Not Visable	Offsite tree. Unable to carry out detailed inspection due to restricted access. Main stem not viasble untill approx 7ft from ground level due to fence.	**B.1** 40+ yrs
T19										Estimated Measurements	
Common Lime *Tilia europaea*	15	1	360	N 5 E 5 S 4.5 W 7	6 6 7 5	SM	A: 58.6 R: 4.31	Good	C: Good S: Not Visable B: Not Visable	Off site tree. Unable to carry out detailed survey due o restricted access. Main stem not viasble untill approx 7ft from ground level due to fence.	**B.1** 40+ yrs
T20										Estimated Measurements	
Common Beech *Fagus sylvatica*	12	1	300	N 3 E 3 S 4 W 3	5 5 5 5	Y	A: 40.7 R: 3.59	Good	C: Good S: Not Visable B: Not Visable	Off site tree. Unable to carry out detailed inspection due to restricted access. Tree younger than surrounding Beech situated offsite and appears to be slightly suppressed by surrounding trees. Main stem not viasble untill approx 7ft from ground level due to fence.	**C.1** 40+ yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations Survey Comment	Cat ERC
T21											
Silver Birch *Betula pendula*	12	1	310	N 3.5 E 3 S 3 W 2.5	6 6 6 6	SM	A: 43.5 R: 3.72	Good	C: Good S: Good B: Good	Located on eastern boundary in corner of rear garden. Main stem splits at 300mm to form 2 co- dominant stems.	**C.1** 20+ yrs
T22											
Leyland Cypress *X Cupressocyparis leylandii*	6	2	333 (Eq)	N 2 E 2 S 2 W 2.5	3 3 2 2.5	SM	A: 50.1 R: 3.99	Good	C: Good S: Good B: Good	Located on southeast boundary line. Height has been maintained at approx. 6m. Provides an element of screening from neighbouring property, however of low amenity value.	**C.2** 20+ yrs
T23										Estimated Measurements	
Silver Birch *Betula pendula*	12	1	260	N 2 E 2.5 S 3 W 3	6 6 6 6	Y	A: 30.6 R: 3.12	Good	C: Good S: Not Visable B: Not Visable	Offsite tree. Unable to carry out detailed inspection due to restricted access. Evidence of pruning works carried out on western side of canopy.	**C.1** 20+ yrs
T24											
Leyland Cypress *X Cupressocyparis leylandii*	6	2	421 (Eq)	N 2 E 2 S 2 W 2	3 3 3 3	M	A: 80 R: 5.04	Good	C: Good S: Good B: Good	Located on eastern boundary line. Main stem splits to form 2 co- dominant stems at 100mm from ground level. Height has been maintained at approx. 6m. Although the tree provides screening from neighbouring property, it is of low amenity value.	**C.2** 20+ yrs
T25											
Rhododendron *Rhododendron sp.*	3	2	113 (Eq)	N 0.5 E 0.5 S 0.5 W 0.5	1 1 1 1	M	A: 5.8 R: 1.35	Good	C: Good S: Good B: Good	Tree provides some screening but of low amenity value. Evidence of pruning works on stems.	**C.2** 10+ yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Appendix 3: Tree Constraints Plan

Note: Existing dwelling(s), retaining wall(s), road(s) and structures are likely to be partial or complete root barriers. We currently do not have enough information with regards to the existing and surrounding properties and structures, foundations, soil types etc. to definitively determine the root barriers. Site features that are significant enough to be considered barriers to root development, irrespective of proximity to trees, have been identified with a light blue hatch (see key for details).

N

Indicative only

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.

Tree Survey Report

Please refer to Arbtech Consulting Ltd. Tree Survey Report and Tree Schedule for full details on all surveyed trees, hedgerows and major shrub groups.
All trees were surveyed and categorised in accordance with the guidance as set out in the British Standard BS5837:2012 Tree in relation to design, demolition and construction - Recommendations.

We make the following recommendation to ensure that no conditions relating to arboriculture are attached to any planning consent secured: obtain and arboricultural report to include:
a) An arboricultural impact assessment (AIA);
b) An arboricultural method statement (AMS); and
c) A tree protection plan (TPP).

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Drawing:
Tree Constraints Plan

Based on:
10016-000

Drawing No:		Rev:
Arbtech TCP 01		
Date: Nov 2020	Scale: 1:150 @ A1	Drawn: MB

Key:

Tree Nos.:	T1	Tree Canopies:		Trunks:	
RPAs:		Category 'U' trees:		Category 'A' trees:	
Category 'B' trees:		Category 'C' trees:		Category 'C' groups:	
Generic notional shading arc:		Potential root barriers:			

All dimensions should be checked on site. No dimensions are to be scaled from this drawing.
Please notify us of any discrepancies found. Arbtech 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 designs 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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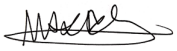
Arbtech TSR 01	Max Bell		Consultant	1	11/11/2020

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