

ARBORICULTURAL SURVEY
to BS 5837:2005
at
Hill Top Farm
Redbrook Road
Barnsley
South Yorkshire

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Chris Carr Associates

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2. Site Description

2.1 Land Use

- 2.1.1 The site is currently a small residential area comprising of private houses and farm buildings.

2.2 Topography

- 2.2.1 The site is approximately level from east to west and slopes gently upwards from the north to the south.

2.3 Treescape

- 2.3.1 The trees on this site have a moderate impact on the local treescape.
- 2.3.2 Surrounding the site is a residential area containing occasional garden trees.

2.4 Amenity Value

- 2.4.1 The trees on site collectively provide a reasonable amenity to the surrounding area. One specimen has a high amenity value.

2.5 Age Class Mix

- 2.5.1 The trees surveyed ranged in age from young to mature. However the trees were predominantly semi-mature and early-mature.

2.6 Species Diversity

- 2.6.1 A diverse species was surveyed including Pear, Leylandii, Juniper, Cherry, Apple, Horse Chestnut, Laburnum, Silver Birch, Pine, Sycamore, Ash, and Willow.

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 A report is needed at the above location to give detailed, independent, arboricultural advice on the trees present, in the particular context of potential development.

1.2 Terms of Reference

- 1.2.1 I am instructed by Chris Carr Associates to visit the site and prepare my findings in a report.
- 1.2.2 For this purpose I have been supplied with a topographical survey; Drawing No: B366/5/1.

1.3 Scope of the Report

- 1.3.1 This report is compiled in accordance with *BS 5837:2005 Trees in relation to construction*. The specific design of any proposed development is not generally taken into account at this stage.
- 1.3.2 Preliminary recommendations are given with a view to safety and the long-term management of a sustainable tree cover.
- 1.3.3 All trees within the site boundary with a stem diameter above 75mm are included.
- 1.3.4 Where applicable smaller trees and significant shrub masses are included.
- 1.3.5 Where applicable trees outside the site boundary, but close enough to be affected by development, are included.

1.4 Survey details

- 1.4.1 The survey took place during the month of November 2007.
- 1.4.2 The survey was conducted by Andrew Bussey.
- 1.4.3 Inspection was made at ground level. Further investigation, such as climbed inspections or decay detection surveys, may be recommended where appropriate.
- 1.4.4 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible measurements were estimated.
- 1.4.5 No digging or drilling was carried out on this occasion.

3. Explanation of Tree Descriptions

3.1 Measurements

- 3.1.1 *HEIGHT* of the tree is measured from the stem base. Where the ground has a significant slope the higher ground is selected.
- 3.1.2 *CROWN HEIGHT* is an indication of the average height at which the main crown begins
- 3.1.3 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level, just above the root buttress.
- 3.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

3.2 Evaluations

- 3.2.1 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.
- 3.2.2 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.
- 3.2.3 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.
- 3.2.4 *LIFE EXPECTANCY* is classed as; less than 10 years (<10), 10-20 years, 20-40 years, or more than 40 years (40+). This is an indication of the number of years before removal of the tree is likely to be required.

3.3 Retention Categories

- 3.3.1 *RETENTION CATEGORY* values for the trees are as follows:
- 3.3.2 *A (marked green on the plan) = retention most desirable*
These trees are of high quality and value with a good life expectancy. They may be further sub-divided as follows:
 - Ai) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues;

- Aii) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures;
- Aiii) Those having significant conservation or historical value e.g. veteran trees.

3.3.3 B (marked in blue on the plan) = retention desirable

These trees are of moderate quality and value with a significant life expectancy. They may be further sub-divided as follows:

- Bi) Trees that might be included in the high category but because of their numbers or slightly impaired condition, are downgraded in favour of the better individuals;
- Bii) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals;
- Biii) Trees with clearly identifiable conservation or other cultural benefits.

3.3.4 C (marked in grey on the plan) = trees which could be retained

These trees are of low quality and value, and are in adequate condition to remain until new planting could be established. They may be further sub-divided as follows:

- Ci) Trees not qualifying in higher categories;
- Cii) Groups of trees which do not form a distinct landscape feature;
- Ciii) Trees with very limited conservation or other cultural benefits.

3.3.5 R (marked in red on the plan) = trees for removal

These trees are in such a condition that any existing value would be lost within 10 years. This may be due to any of the following:

- i) Failure is likely due to serious, irredeemable, structural defects;
- ii) Removal of other category R trees will render them exposed and unstable;
- iii) They are in serious, overall decline or are dead;
- iv) They are of low quality and suppressing adjacent trees of better quality;
- v) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

4. Status of the Trees

- 4.1 A check was made on 4th December 2007 with: **Barnsley Metropolitan Borough Council**.

We are informed that there is no Tree Preservation Order in force, and the site is not within a conservation area.

- 4.2 Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken. We are able to arrange this and to organise and supervise professional contractors.

5. Tree Descriptions and Recommendations

- 5.1 Full details of all individual trees surveyed are recorded in the tables at Appendix 1. Please refer also to the attached plan at Appendix 5 and section 3 above, for a full explanation of the tables and plan.

6. Discussion

6.1 Tree Condition & Recommended Works

6.1.1 In total 20 items or groups of vegetation were surveyed of which one fell into category A, two fell into category B, fourteen fell into category C and two fell into category R.

6.1.1.1 Specific details of the two trees which require removal can be found at Appendix 1.

6.1.1.2 Inspection of one tree was inhibited by the restricted access. This is T1. This tree should be inspected for defects once access has been made available.

6.1.1.3 No other tree works are required at this time.

7. General advice

- 7.1. Those trees which overhang public footpaths and public highways, as described in Appendix 1, shall require future maintenance in order to maintain clearance heights for vehicular and pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.
- 7.2. All development work carried out in close proximity to trees should be done so in a manner sympathetic to their needs. Otherwise the condition of the trees may deteriorate in the months and years following the development, leading to a loss of amenity and potentially hazardous trees.
- 7.3. Protective fencing, in accordance with BS 5837:2005 should be erected around all the trees which are to be retained on site. The fencing will ensure that the trees remain healthy during and after the development process.
- 7.4. Root Protection Areas (RPAs) have been plotted around each tree and is generally represented by a circle with the tree located at the centre (see the attached plan at Appendix 5). The radius of each circle is determined on the measurement derived from calculations in BS 5837: 2005.
- 7.5. The RPAs represent the likely rooting zone of a tree, which should not be disturbed. The development should ideally be designed in order to avoid the RPA's of those trees that are to be retained. Where possible the proposed positions of new structures such as buildings, driveways, car parking spaces and paths should be outside the RPAs of those trees which are to be retained. On some occasions it may be possible to construct new buildings upon narrow pile/beam foundations. This should allow new buildings to be constructed within the RPAs of trees without being detrimental to their long term health. A structural engineer should be consulted on the potential to use pile/beam foundations on this site prior to any plans being drawn.
- 7.6. In addition to the roots, the position of any new buildings should also take into account tree canopies. Adequate clearance between the new building and the canopies is required in order to avoid conflict in the future (e.g. leaf litter blocking gutters). The shade that will be cast by the retained trees should also be considered when positioning a new building.
- 7.7. In order to ensure the protection of the trees throughout the development phase, a detailed method statement is recommended. This method statement will detail tree root protection areas and the positions of protective fencing, service runs, site access and storage, specifications for special hard surfacing and a timetable of events relating to the procedures. Failure to adhere to such procedures will greatly reduce the life expectancy of the surveyed trees. A detailed Method Statement is frequently required by the local authority before planning permission is granted.

8 Conclusion

- 8.1. The trees surveyed were generally found to be in fair or good condition.
- 8.2. Two trees have been recommended for removal, these are detailed in Appendix 1.
- 8.3. One tree requires re-inspecting if access is ever made available.
- 8.4. No other tree works are required at this time.
- 8.5. I recommend JCA provide a comprehensive Method Statement in order to ensure the continued health of trees throughout the proposed development. We are also able to provide planting schemes, organise and supervise tree works, and if necessary undertake climbed inspections and decay detection analysis.

Appendix 1: Tree Descriptions and Recommendations

Appendix 1 – Tree Descriptions and Recommendations

1

Ref No.	Age & Species & Latin Name	Height (m)	Crown Height (m)	Stem Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physio-logical Condition & Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T1	Mature Sycamore <i>Acer pseudoplatanus</i>	18	3	(Est) 135 - 150	7.5 7.5 7.5 7.5	Multi-stemmed at 3m with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects. Restricted access to tree base.	Re-inspect after access gained.	GOOD GOOD	M O D	40+	A
T2	Semi-mature Pine <i>Pinus sp</i>	4.5	0	(Est) 20	2.5 2.5 2.5 2.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	L O W	40+	C
T3	Semi-mature Willow <i>Salix sp</i>	4	0	(Est) 25	2 2 2 2	Dead tree.	Remove.	DEAD DEAD	D E A D	<10	R
T4	Semi-mature Silver Birch <i>Betula pendula</i>	10	2	26	3 3 1 3	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	L O W	40+	C
T5	Semi-mature Silver Birch <i>Betula pendula</i>	9	1	30	3 3 2.5 2	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	L O W	40+	C
G6	Semi-mature Cherry <i>Prunus sp</i>	To 6	0	To 15	See plan	Approx 20 trees forming untidy hedge.	No action required	FAIR FAIR	L O W	10-20	C
T7	Early-mature Rowan <i>Sorbus aucuparia</i>	9	0	To 20 per stem	2 2 4 3	Multi-stemmed at ground level with an unbalanced crown. No evidence of significant pruning. No major visible defects. Tree of poor form. Included bark at stem junction.	No action required.	FAIR FAIR	L O W	10-20	C
T8	Young Apple <i>Malus sp</i>	4	1	13 at base	2.2 2.2 2.2 2.2	Tree of poor form. No major visible defects.	No action required.	FAIR FAIR	L O W	10-20	C
T9	Early-mature Horse Chestnut <i>Aesculus hippocastanum</i>	9	2	40	4 4 4 4	Single stemmed and vertical with an unbalanced crown. No evidence of significant pruning. Tree with severe Bleeding Canker of Horse Chestnut.	Remove.	POOR POOR	L O W	<10	R
G10	Semi-mature Leylandii X <i>Cupressocyparis leylandii</i>	To 6	0	To 20	1.5 1.5 1.5 1.5	Single stemmed and vertical. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	L O W	20-40	C

Ref No.	Age & Species & Latin Name	Height (m)	Crown Height (m)	Stem Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition & Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
					W	N	E						
T11	Mature Pear <i>Pyrus sp</i>	6	4	48	4.5	5	4.5	Single stem leads to very spready flat crown. Tree in state of decline.	Monitor.	POOR POOR	M O D	<10	C
T12	Early-mature Chilean pine <i>Araucaria araucana</i>	13	1	41	3.2	3.2	3.2	Single stemmed and vertical with a well-developed crown. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	M O D	40+	B
T13	Early-mature Cherry <i>Prunus species</i>	18	2	42 at base	3.5	3.5	2.5	Twin-stemmed at 0.5m with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	M O D	20-40	B
T14	Young Apple <i>Malus sp</i>	5	1.5	12	1	2.5	1	Twin-stemmed at 0.5m with an unbalanced crown. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	L O W	20-40	C
T15	Mature Laburnum <i>Laburnum anagyroides</i>	7	1.5	52 at base	3	4.3	4.2	Multi-stemmed at 1m with an unbalanced crown. Multiple pruning wounds (healing well). Leaning included bark at stem junction.	Monitor.	FAIR FAIR	M O D	10-20	C
T16	Semi-mature Pear <i>Pyrus sp</i>	7	1.5	28	1.5	1.5	2.5	Single stemmed and leaning with an unbalanced crown. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	L O W	20-40	C
T17	Mature Ash <i>Fraxinus excelsior</i>	15	2	68	7	7	7	Tree of good form. Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	H I G H	40+	A
T18	Early-mature Golden Leylandii <i>X Cupressocyparis leylandii</i>	8	0	(Est) 33	2	2	2	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	M O D	40+	C
G19	Semi-mature Juniper <i>Juniperus sp</i>	To 2.5	0	(Est) 20 each	2.5	2.5	2.5	Two large shrubs. No major visible defects.	No action required.	GOOD GOOD	L O W	20-40	C
G20	Semi-mature Apple <i>Malus sp</i>	To 4	0	To 15	1.5	1.5	1.5	Two trees of poor form.	No action required.	FAIR FAIR	L O W	20-40	C

Appendix 2: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria.
Co-dominant Stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Crown Lift	The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown reduce	The reduction of a tree's height or spread while preserving its natural shape.
Crown thin	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in uncharacteristic clusters around the base or the stem of a tree, usually as a result of bad pruning or some other stress factor.
Formative pruning	The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown.
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk of the tree is cut at about 4m, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
Topping	Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping causes serious health problems to a tree.

Appendix 3: The Author's Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *FRES PDipArb(RFS) FArborA CBiol MIBiol*. Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 28 years experience in the arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. He has since developed JCA's portfolio of services and its extensive client base. Jonathan is a Chartered Biologist and an expert witness with much experience of litigation work.

Consulting Arboriculturists

Toby Thwaites *BSc (Hons) HND (Arboriculture)*. Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Lancashire. Toby is a JCA team leader and manages an office of consulting arborists.

Ivan Button *NCH (Arboriculture) BSc (Hons) PGCE*. Ivan joined JCA in 2005 after nine years having managed his own landscaping and tree surgery business. He has studied at the Universities of Leeds, Lincoln and Wales and is currently working towards a degree in arboriculture at the University of Lancashire. Ivan is a JCA team leader and manages an office of consulting arborists.

Andrew Bagshaw *FD (Arboriculture)*. Andrew joined JCA in 2005 having gained several years experience in tree surgery and landscaping. He is trained in aerial rescue and is JCA's principal first aid person. He is currently working towards a degree in arboriculture at the University of Lancashire.

Adam Winson *BSc (Hons) E Con, ND (Arboriculture)*. Prior to working at JCA Adam has worked as a tree surgeon for eight years for a range of private companies and Sydney City Council. Adam achieved a national award for best Dissertation on the subject of Urban Greenspace Management at Sheffield Hallam University. Adam is currently working towards an MSc in Arboriculture at the University of Lancashire.

Robert Godwin *BA (Hons) Landscape Planning, ISA Certified Arborist*. Robert joined JCA having spent several years as an arboricultural consultant particularly in relation to subsidence. He also has considerable experience in landscape and arboricultural contracting. Robert is currently working towards an MSc in Arboriculture at the University of Lancashire.

Arboricultural Technicians

Victoria Black. Victoria has been with JCA for over 5 years building her knowledge of the arboricultural business. She is currently working towards a degree in arboriculture at the University of Lancashire.

Andrew Bussey. Andrew joined JCA having spent 12 years doing tree surgery for various private companies and a local authority. He has various NPTC qualifications and is currently studying for his Arboricultural Technicians Certificate.

Lee Major. Lee recently joined JCA having gained his RFS Certificate in Arboriculture. Lee also has two years climbing experience, working for a local tree surgeon. He is currently working towards his degree in arboriculture at the University of Lancashire.

Administrative Staff

Andrew C Parker, GM, BA (Hons), PGCE, Practice Manager
Catherine Cocking, Accounts Manager
Sue Guest, Administrative Officer
Sally Whitwam, Administrative Assistant
Yasmin Hussain, Administrative Assistant
Alec Fielden, City and Guilds 3, CAD Technician

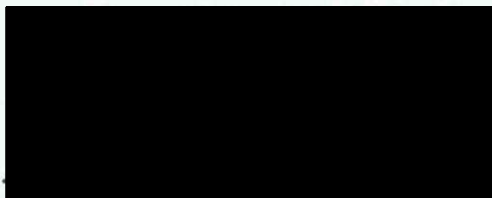
Appendix 4: General Guidelines

- A4.1 All work must be to BS 3998:1989 - '*Recommendations for tree work*'.
- A4.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors, and should be covered by adequate public liability insurance.
- A4.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.
- A4.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.
- A4.5 No liability can be accepted by the consultant in respect of the trees unless the recommendations of this report are carried out under his supervision and within his timescale.
- A4.6 It is advisable to have trees inspected by an arboricultural consultant regularly. In this instance it is recommended that these inspections are made every year.

Appendix 5: Site Plan

I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed
Andrew Bussey



On behalf of

Jonathan P Cocking. F.R.E.S., P.Dip. Arboriculture (RFS), F Arbor A, C.Biol., M.I.Biol.,
Registered Consultant of the Arboricultural Association.

4th December 2007

For and on behalf of *JCA Ltd*

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