

**ARBORICULTURAL REPORT
to BS 5837:2005
at
Greenside Avenue
Mapplewell
Barnsley
South Yorkshire
S75 6BB**

Client:

Alston Murphy Associates

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10187/AW

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 A report is required at **Greenside Avenue, Mapplewell**, to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Terms of Reference

- 1.2.1 I am instructed by Alston Murphy Associates to visit the site and prepare my findings in a report.
- 1.2.2 For this purpose trees have been plotted using Ordnance Survey map data and onsite measurements, thus whilst accurate, they should be taken as indicative only.

1.3 Scope of the Report

- 1.3.1 This report is compiled in accordance with *BS 5837:2005 Trees in relation to construction*.
- 1.3.2 Preliminary recommendations are given with a view to 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 trees outside the site boundary, but close enough to be affected by the proposed development, are included.
- 1.3.5 The specific design of any proposed development is not generally taken into account at this stage.

1.4 Survey Details

- 1.4.1 The survey took place during the month of June 2011.
- 1.4.2 The survey was conducted by Adam Winson MSc, BSc (Hons).
- 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.

2. Site Description

2.1 Land Use

2.1.1 The site is currently a disused former care home type building.

2.2 Topography

2.2.1 The site is approximately level. The land to the north of the site slopes up to the boundary.

2.3 Treescape

2.3.1 Surrounding the site is a residential area containing occasional mature garden and street trees. To the south and east of the site amenity playing fields with occasional trees.

2.3.2 The trees on this site have a moderate impact on the local treescape.

2.4 Visual Amenity Value

2.4.1 The trees on site collectively provide a reasonable visual amenity to the surrounding area. Occasional specimens have a higher amenity value.

2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from semi-mature to early mature.

2.6 Species Diversity

2.6.1 Species surveyed include Weeping Willow, Lime, Maple, Whitebeam, Hawthorn, Cherry, Elder and Blackthorn.

3. Status of the Trees

- 3.1 A check was made on 8th June 2011 with: *Barnsley Metropolitan Borough Council*.
- 3.2 We are informed that there is no Tree Preservation Order in force, and the site is not within a conservation area.
- 3.3 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.

4. Tree Descriptions and Recommendations

- 4.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**. A full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

5. Discussion

5.1 Tree Condition & Recommended Works

- 5.1.1 The tree survey revealed a total of 17 items of vegetation (15 individual trees and 2 groups of trees). Of these, 7 trees/groups were identified as retention category 'B', 9 trees/groups were identified as retention category 'C' and 1 tree was identified as retention category 'R'. No retention category 'A' trees were identified on this occasion. Please refer to **Appendix 2** for retention category and definition criteria.
- 5.1.2 The small Purple Plum (**T11**) has been recommended for removal as has been damaged and has no long term future. It is not hazardous and its removal is of a low priority.
- 5.1.3 Similarly, the trees **T5** and **T7**, although retention category 'C', have limited long term prospects and should be considered for future removal.
- 5.1.4 Low priority tree pruning works are recommended to ensure the long-term health of the trees, as detailed at **Appendix 1**.
- 5.1.5 Where a full detailed inspection of trees was inhibited by restricted access as detailed at **Appendix 1**, it is advised that these trees be re-inspected for any possible defects when access has been made available.
- 5.1.6 Those trees which overhang the public footpaths or public highways, detailed at **Appendix 1**, shall require future maintenance in order to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.

5.2 Potential Arboricultural Implications & Design Advice

- 5.2.1 The details of the proposed development are not known at present. However, the following comments can be made about the site in terms of its tree cover in relation to a potential development.
- 5.2.2 During development the part of the tree most commonly under threat, and most commonly ignored, is the rooting system. When trees are damaged, particularly the roots, their long-term health and stability can be affected. Most development activity can have an impact on the future condition and safety of a tree, and therefore careful planning and management of tree protection should ensure a continued sustainable tree cover with minimal stress to existing trees.
- 5.2.3 In order to ensure that the retained trees on site are properly protected during the development phase, the tree rooting zones are to be considered. For the purpose of development the rooting zone of the tree is known as the Root Protection Area or RPA.

The RPA of each tree or group is marked on the Tree Constraints Plan at **Appendix 6** and represents the rooting zone which, where possible, should remain undisturbed. The protection of retained trees can therefore be achieved by creating a **Construction Exclusion Zone (CEZ)** based on the RPAs.

- 5.2.4 Damage caused by any construction activity such as demolition, soil stripping, and provision of services needs to be considered at the design stage. Care should be taken to avoid damage to tree roots when existing structures such as tarmac surfaces are removed within a RPA.
- 5.2.5 The laying of access roads, driveways, parking areas or any other hard surfaces planned in proximity to retained trees needs to be considered. There are many solutions available to construct hard surfaces over RPAs without causing damage to trees.
- 5.2.6 Many development sites contain areas of nature conservation interest. Trees and hedgerows, in particular, provide an important habitat for birds, bats, invertebrates and fungi and appropriate attention needs to be paid to preserving habitats throughout the development process. JCA can provide ecological and bat surveys where required.
- 5.2.7 Where a landscape planting scheme is proposed, consideration must be made at the planning stage as to where this is to be implemented on site. Such locations should be protected in order to prevent soil compaction and/or contamination and should therefore form part of the Construction Exclusion Zone. JCA can provide Tree Planting Schemes where required.

6. Conclusions

- 6.1 The trees surveyed were generally found to be in good condition.
- 6.2 The tree survey revealed a total of 17 items of vegetation. Of these, 7 trees/groups were identified as retention category 'B', 9 trees/groups were identified as retention category 'C' and 1 tree was identified as retention category 'R'. These are discussed in **Section 5** and detailed at **Appendix 1**.
- 6.3 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.
- 6.4 Care should be taken at the design stage to ensure that the retained trees are protected. The protection of retained trees can be achieved by the creation of a Construction Exclusion Zone based on the Root Protection Area of a tree. The Root Protection Area of each tree or group is marked on the Tree Constraints Plan at **Appendix 6**.
- 6.5 The proposed development should be accompanied by an Arboricultural Method Statement (AMS) detailing the specific protection measures necessary for each tree. This should specify fencing standards and positions (the creation of the Construction Exclusion Zone), acceptable construction techniques and necessary tree works.
- 6.6 Upon instruction JCA Ltd are able to provide a comprehensive Arboricultural Method Statement in order to ensure the continued health of trees throughout the proposed development. We are also able to provide tree planting schemes and organise tree works.

Appendices

Appendix 1: Tree Descriptions and Recommendations

Tree Ref.	Age Species <i>Latin Name</i>	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
					N	W	E							
T 1	Early-mature Weeping Willow <i>Salix babylonica</i>	10	1.5	44	5 4 6	5	5	Multiple-stemmed at 2.5. Overhanging footpath. Pruning wounds due to crown lifting, mostly on western side, healing well. No major visible defects.	No action required	GOOD	GOOD	MOD	40+	B
T 2	Semi-mature Lime <i>Tilia sp.</i>	4	1	16	3 2 2	2	2	Multiple-stemmed at 1.5. Overhanging footpath. Good potential. No major visible defects.	Formative prune/ crown lift.	GOOD	GOOD	LOW	40+	C
T 3	Early-mature Norway Maple <i>Acer platanoides</i>	10	2	36	5 4 5	5	5	Twin-stemmed at 2m. Well developed crown. No major visible defects.	No action required	GOOD	GOOD	MOD	40+	B
T 4	Early-mature Whitebeam <i>Sorbus aria</i>	5	2	26	4 3 4	3	3	Multiple-stemmed at 2m, tight union. Slight lean. Foliage discoloured, possible stress.	No action required	POOR	FAIR	MOD	10-20	C
T 5	Semi-mature Cherry <i>Prunus sp</i>	4	0	10	1 2 1	2	2	Significant lean. Limited long term value.	No action required, consider removal.	GOOD	FAIR	LOW	10-20	C
T 6	Semi-mature Hawthorn <i>Crataegus monogyna</i>	1.5	0	19	2 3 2	3	3	Multiple-stemmed at 1m. Limited long term value.	No action required	GOOD	FAIR	LOW	10-20	C
T 7	Semi-mature Elder <i>Sambucus nigra</i>	2	0	10	1.5 1.5 1.5	1.5	1.5	Multiple-stemmed at base. Self sown, limited value.	No action required, consider removal.	FAIR	FAIR	LOW	10-20	C
T 8	Semi-mature Lime <i>Tilia sp.</i>	4	0	18	2 2 2	2	2	Multiple-stemmed at base, tight union. No major visible defects.	Formative prune/ crown lift to form 1 stem.	GOOD	FAIR	MOD	40+	C
T 9	Semi-mature Cherry <i>Prunus sp</i>	3	0.5	15	2.5 2 2	2	2	Twin-stemmed at base. No major visible defects.	No action required	GOOD	FAIR	LOW	10-20	C
G 10	Early-mature Hawthorn <i>Crataegus monogyna</i>	5	1	30	See plan			Line of multiple-stemmed boundary trees. Forms unmanaged hedge feature. No major visible defects.	No action required	GOOD	GOOD	MOD	20-40	B

Tree Ref.	Age Species <i>Latin Name</i>	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
					N	W	E							
T 11	Semi-mature Purple Plum <i>Prunus cerasifera</i>	2	1	10	2	1	1	Multiple-stemmed at 1m. One stem snapped out. No long term value .	No action required, consider removal.	FAIR	POOR	LOW	<10	R
T 12	Early-mature Sycamore <i>Acer pseudoplatanus</i>	16	6	40	8	5	5	Multiple-stemmed at base. Access prevented detailed inspection. No major visible defects.	Re-inspect when full access is available	GOOD	FAIR	MOD	20-40	B
G 13	Semi-mature Blackthorn <i>Prunus spinosa</i>	6	0	20	See plan			Dense boundary vegetation.	No action required	GOOD	GOOD	MOD	20-40	C
T 14	Early-mature Lime <i>Tilia sp.</i>	9	1.5	26	4	4	3.5	Single stemmed and vertical with well developed crown. Good future prospects.	No action required	GOOD	GOOD	MOD	40+	B
T 15	Early-mature Silver Maple <i>Acer saccharinum</i>	13	3	44	6	6.5	6	Twin-stemmed at 4m. Well developed crown. No major visible defects.	No action required	GOOD	GOOD	MOD	40+	B
T 16	Early-mature Silver Maple <i>Acer saccharinum</i>	10	1	29	4	2	5	Single stemmed, unbalanced crown. No major visible defects.	No action required	GOOD	FAIR	MOD	20-40	C
T 17	Semi-mature Whitebeam <i>Sorbus aria</i>	7	2	20	4	3	3	Multiple-stemmed at 2m. Access prevented detailed inspection yet no major visible defects.	Re-inspect when full access is available	GOOD	GOOD	MOD	40+	B

Appendix 1: Tree Descriptions and Recommendations

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements

- A2.1.1 *HEIGHT* of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.
- A2.1.2 *CROWN HEIGHT* is an indication of the average height at which the crown begins.
- A2.1.3 *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.
- A2.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

A2.2 Evaluations

- A2.2.1 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.
- A2.2.2 *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.
- A2.2.3 *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.
- A2.2.4 *LIFE EXPECTANCY* is classed as; less than 10 years, 10-20 years, 20-40 years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

A2.3 Retention Categories

A2.3.1 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:

- A1) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues.
- A2) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures.
- A3) Those having significant conservation or historical value e.g. veteran trees.

A2.3.2 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:

- B1) 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.
- B2) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals.
- B3) Trees with clearly identifiable conservation or other cultural benefits.

A2.3.3 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:

- C1) Trees not qualifying in higher categories.
- C2) Groups of trees which do not form a distinct landscape feature.
- C3) Trees with very limited conservation or other cultural benefits.

A2.3.4 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:

- 1) Failure is likely due to serious, irredeemable, structural defects.
- 2) Removal of other category R trees will render them exposed and unstable.
- 3) They are in serious, overall decline or are dead.
- 4) They are of low quality and suppressing adjacent trees of better quality.
- 5) 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.

Appendix 3: General Guidelines

- A3.1 All work must be to BS 3998: 2010 - '*Recommendations for tree work*'.
- A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.
- A3.3 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.
- A3.4 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.
- A3.5 No liability can be accepted by JCA Limited in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.
- A3.6 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 4: 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.
RPA	Root Protection Area – The theoretical rooting area of a tree as defined in BS5837: 2005 <i>Trees in relation to construction</i> .
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 5: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 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, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Coordinator

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. A former JCA team leader and Consulting Arboriculturist, Toby was promoted to Technical Coordinator and now oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

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. Andrew has obtained a foundation degree in Arboriculture at the University of Lancashire, is QTRA qualified and is a JCA team leader who manages an office of Consulting Arboriculturists.

Adam Winson *BSc (Hons), ND (Arboriculture) MSc (Arboriculture and Urban Forestry).* Adam is a Professional Associate of the Institute of Chartered Foresters and an Associate Member of the Institute of Ecology and Environmental Management. Prior to joining JCA Adam worked as a tree surgeon. During his BSc in Environmental Conservation he gained the CPRE award for best dissertation. Adam has recently obtained an MSc in Arboriculture and Urban Forestry.

Robert Godwin *BA (Hons), MSc (Arboriculture and Urban Forestry), MArborA.* Robert is a Professional Member of the Arboricultural Association and a Professional Associate of the Institute of Chartered Foresters. He has a degree in Landscape Planning & Management and has several years experience as a Consulting Arboriculturist. Robert has recently obtained an MSc in Arboriculture and Urban Forestry.

Victoria Black *FD (Arboriculture).* Victoria has been with JCA since 2002 building her knowledge of the Arboricultural business. She has recently obtained her foundation 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, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS), an Arboricultural Technicians Certificate and is QTRA qualified.

Raphael Skerratt *BSc (Forestry) FArborA.* Raphael covers the London area for JCA. He ran his own Arboricultural businesses since 1972 and is experienced in tree surveys for development, safety and subsidence purposes, and is an Expert Witness.

Consulting Staff: Ecology

Christopher Shaw *BSc (Hons).* Chris is our in-house Ecologist, and joined JCA in 2010 after achieving a First Class degree in Biology at the University of Leeds. Prior to joining JCA, Chris has volunteered with a number of organisations including the Yorkshire Wildlife Trust, BTCV and a local Ecological Consultancy. He is currently undertaking a 'Certificate in Ecological Consultancy Course' with Acorn Ecology. Chris is actively involved in building JCA's portfolio of ecological services.

Administrative Staff

Sue Guest Administrative Team Leader.
Sally Whitwam Administrative Assistant.
Simeon Haigh *BSc (Hons).* IT Officer.

Catherine Cocking Accounts Manager.
Yasmin Hussain Administrative Assistant.
Liz Bone Trainee Administrative Assistant
Alec Fielden *Cert. Arb. (RFS).* CAD Technician.

Appendix 6: Tree Constraints 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

.....
Adam Winson MSc, BSc, (Hons), N.D.

15th June 2011

For and on behalf of *JCA Ltd*

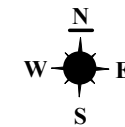
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Root Protection Area: RPA

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE. THE RPA SHOULD IDEALLY REMAIN UNDISTURBED IF A TREE IS TO BE RETAINED.

THE DEVELOPMENT PROPOSALS SHOULD THEREFORE BE DESIGNED TO AVOID THE RPA OF ANY TREE WHICH IS TO BE RETAINED.

IF IT IS NECESSARY FOR THE DEVELOPMENT TO ENCROACH INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS MUST BE CONSIDERED.

Appendix 6: Tree Constraints Plan		BRITISH STANDARD 5837: 2005 4.3.1 RETENTION CATEGORIES <small>Detailed definitions of these categories are at Appendix 2 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.</small>	
TITLE: Greenside Avenue, S75 6BB. JCA Ref: 10187AW			CATEGORY A: 'RETENTION MOST DESIRABLE'
SCALE 1:500	PAPER SIZE A3		CATEGORY B: 'RETENTION DESIRABLE'
SURVEYED BY: AW	DRAWN BY: AW		CATEGORY C: 'TREE WHICH COULD BE RETAINED'
 JCA Limited Arboricultural & Forestry Consultants			CATEGORY R: 'TREE FOR REMOVAL'
			CENTRE OF TREE/SHRUB
			CENTRE OF TREE/SHRUB TO BE REMOVED
			ROOT PROTECTION AREA