

ARBORICULTURAL REPORT
to BS 5837:2005
at
Cliff House Farm
Mortimer Road
Sheffield
South Yorkshire
S36 9FR

Client:

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 A report is required at **Cliff House Farm, Mortimer Road, Penistone, Sheffield, S36 9FR** 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 David Dawson to visit the site and prepare my findings in a report.
- 1.2.2 For this purpose I have been supplied with a site plan.

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 September 2011.
- 1.4.2 The survey was conducted by Andrew Bagshaw FDS Arb Tech ArborA.
- 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 and electronic distometers. Where this was not possible measurements were estimated.

2. Site Description

2.1 Land Use

2.1.1 The site is currently the grounds of Cliff House Farm.

2.2 Topography

2.2.1 The site is approximately level.

2.3 Treescape

2.3.1 The site is located in a rural area and is surrounded by fields used for sheep and dairy farming. The fields are bounded by walls and fencing with occasional mature trees.

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

2.4 Visual Amenity Value

2.4.1 The trees on site collectively provide an excellent visual amenity to the surrounding area.

2.5 Age Class Mix

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

2.6 Species Diversity

2.6.1 Species surveyed include Sycamore, Beech, Hawthorn, Apple, Elder, Plum, and Elm. The predominant species were Sycamore and Beech, with other species being occasional, or even single, specimens.

3. Status of the Trees

- 3.1 A check was made on 25th August 2011 with: **Barnsley Metropolitan Borough Council.**
- 3.2 We are informed that there is no Tree Preservation Order in force and that 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 35 items of vegetation (32 individual trees and 3 groups of trees). Of these, 21 trees and 1 group were identified as retention category 'B' and 11 trees and 2 groups of trees were identified as retention category 'C'. No retention category 'A' or 'R' trees were identified on this occasion. Please refer to **Appendix 2** for retention category and definition criteria.
- 5.1.2 Tree pruning works are recommended for reasons of public safety and to ensure the long-term health of the trees, as detailed at **Appendix 1**. Attention is drawn to T3, which is currently in a poor condition. The recommended work should be carried out as a matter of **moderate priority**.
- 5.1.3 Trees T7, T12, T33, T34 and T35 have been noted to have significant structural or physiological defects, as detailed at **Appendix 1**. These trees should be monitored (re-inspected and re-assessed) on an annual basis to assess if their condition is still acceptable. Although these trees were considered to be in an acceptable condition at the time of the inspection, the defects observed may lead to their early demise or render them unsafe in the future.
- 5.1.4 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.
- 5.1.5 The species and age diversity of existing trees on site is poor and a proposed development would improve this by incorporating a Tree Planting Scheme which introduces younger trees of a variety of suitable species.

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 The majority of trees recommended for retention are situated close to the site boundary. This offers a potential window for development within the centre of the site.
- 5.2.4 There are a number of high amenity trees within this site. They will enhance any proposed development and care should be taken at the design stage to ensure that these trees are retained.
- 5.2.5 An entrance already exists offering vehicular access to the site. If this can be retained it will minimise disturbance to tree roots.
- 5.2.6 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.
- 5.2.7 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.
- 5.2.8 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.
- 5.2.9 Boundary walls or other light structures can be constructed without damage to roots through the use of piled foundations rather than the more traditional strip foundations.
- 5.2.10 The location of drainage and utilities within the RPA can be achieved if need be, using special techniques and supervision.
- 5.2.11 The position of the site compound is a major consideration. It is recommended that this, which typically includes the site office, facilities, toilets, storage of materials and parking, is located away from trees and outside the RPA.
- 5.2.12 Consideration must be given to movement of both vehicle and pedestrian traffic. If possible traffic should be diverted away from the RPAs. If this is not possible a range of temporary surfaces are available to distribute the weight of traffic and allow the roots to receive moisture and air.
- 5.2.13 Generally, the alteration of ground levels within the RPA is not acceptable, however, should ground levels need to be lowered in areas adjacent to trees or within the minimum distance recommended, appropriate measures should be taken to minimise the detrimental effects on the trees and their root systems. With regards to raising levels, it is necessary to maintain adequate supplies of moisture and oxygen through the

soil to the tree roots. Therefore, no material should be placed within the RPA without arboricultural advice.

- 5.2.14 The shade that will be cast by the retained trees must also be considered. Where buildings are to be positioned within the shade cast area of trees, these should be designed in order to maximise light levels. If required, JCA can provide a shade cast prediction plan.
- 5.2.15 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.
- 5.2.16 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 trees on this site are not protected by a Tree Preservation Order or by virtue of them being in a Conservation Area.
- 6.3 Some works were recommended for reasons of public safety and to ensure the long term health of the trees. These are summarised in **Section 5** and detailed at **Appendix 1**.
- 6.4 Potential Arboricultural Implications of any proposed development at the site are discussed in **Section 5.2**.
- 6.5 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.
- 6.6 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**.
- 6.7 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.
- 6.8 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	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (Yrs)	Retention Category
	Species Latin Name				N	W	E							
T 1	Mature Beech <i>Fagus sylvatica</i>	18	3	65	4 7 6		3	Single stemmed and vertical with a slightly unbalanced crown which overhangs the road and building. No evidence of significant pruning and no major visible defects.	Crown lift over boundary.	GOOD	GOOD	MOD	40+	B
T 2	Mature Sycamore <i>Acer pseudoplatanus</i>	18	3	63	5 7 7		0.5	Single stemmed and vertical with a slightly unbalanced crown which overhangs the road and building. Occasional pruning wounds, (healing well). No major visible defects.	Crown lift over boundary.	GOOD	GOOD	MOD	20-40	B
T 3	Mature Beech <i>Fagus sylvatica</i>	17	2	125	8 5 6		6	Single stemmed and vertical with a well-developed crown which overhangs the road, good branch junctions throughout. One broken branch and deadwood to lower crown.	Crown clean and crown lift.	GOOD	GOOD	MOD	40+	B
T 4	Mature Sycamore <i>Acer pseudoplatanus</i>	16	3	50	0 0.5 6		2	Single stemmed and vertical with an unbalanced crown. Occasional pruning wounds and several minor cavities, (healing well). Deadwood to lower crown yet no major visible defects. Suppressed specimen.	Crown clean.	GOOD	FAIR	MOD	10-20	C
T 5	Mature Beech <i>Fagus sylvatica</i>	16	3.5	44	6 3 3		5	Single stemmed with a slight lean and a reasonably balanced crown which overhangs the road. No evidence of significant pruning and no major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	B
T 6	Mature Sycamore <i>Acer pseudoplatanus</i>	18	2.5	96	7 4 11		6	Single stemmed and vertical with a well-developed crown which overhangs the road and building, good branch junctions throughout. Old tree house in the crown. No evidence of significant pruning and no major visible defects.	Remove the tree house.	GOOD	GOOD	MOD	20-40	B
T 7	Mature Sycamore <i>Acer pseudoplatanus</i>	12	4	38	3 3 2.5		2.5	Single stemmed and vertical with a balanced crown which overhangs the boundary. No evidence of previous pruning. Major die back to upper crown.	Crown clean and monitor annually.	POOR	FAIR	LOW	10-20	C
G 8	Mature Hawthorn <i>Crataegus monogyna</i>	To 9	From 1	To 46 at base	See plan			Approximately eleven single stemmed and multi stemmed specimens, originally a hedgeline but now unmaintained. Deadwood to lower crown. One specimen is dead. No major visible defects.	Remove major deadwood and dead specimen.	GOOD	FAIR	LOW	10-20	C
T 9	Mature Apple sp. <i>Malus sp</i>	5	1	27	0.5 2 5		2	Single stemmed and leaning with an unbalanced crown. One large wound at 3m and a decay column from ground level to 3m. No long term future.	No action required.	FAIR	POOR	LOW	<10	C
T 10	Mature Hawthorn <i>Crataegus monogyna</i>	8	2.5	25	2 2 3		2.5	Single stemmed and vertical with a balanced crown. No evidence of significant pruning and no major visible defects.	No action required.	GOOD	FAIR	LOW	10-20	C

Tree Ref.	Age Species Latin Name	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention
					W	N E	S							
T 11	Mature Sycamore <i>Acer pseudoplatanus</i>	15	2	50	5.5	6	3.5	Single stemmed and vertical with a balanced crown which overhangs the boundary and building. No evidence of previous pruning and no major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	
T 12	Early-mature Sycamore <i>Acer pseudoplatanus</i>	9	0.5 +	33	3	3	3	Self seeded specimen. Multi-stemmed at ground level with a balanced crown which overhangs the boundary. Lost leader stem with a cavity and significant re-growth.	Monitor annually.	FAIR	FAIR	LOW	10-20	
G 13	Early-mature Mixed <i>Mixed</i>	To 5	From 0.5	To 14	See plan			Approximately nine specimens planted and self seeded. Group includes Elder, Plum and Sycamore. No evidence of significant pruning and no major visible defects.	No action required.	GOOD	FAIR	LOW	10-20	
T 14	Mature Sycamore <i>Acer pseudoplatanus</i>	17	2	73	4	6	5	Single stemmed and vertical with a well-developed crown which overhangs the boundary and building, good branch junctions throughout. Occasional pruning wounds, (healing well). No major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	
T 15	Mature Sycamore <i>Acer pseudoplatanus</i>	19	3	85	6	6	5	Twin-stemmed at 3m with a well-developed crown which overhangs the boundary and building, good branch junctions throughout. Occasional pruning wounds, (healing well). No major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	
T 16	Mature Beech <i>Fagus sylvatica</i>	19	4 +	93	6	8	2	Single stemmed and vertical with a slightly unbalanced crown which overhangs the boundary. Deadwood to lower crown. No evidence of previous pruning and no major visible defects.	Crown clean.	GOOD	GOOD	MOD	40+	
T 17	Mature Beech <i>Fagus sylvatica</i>	17	3 +	68	3	5	5	Single stemmed and vertical with a well-developed crown which overhangs the boundary, good branch junctions throughout. Deadwood to lower crown. No evidence of previous pruning and no major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	
G 18	Mature Sycamore & Beech <i>Acer pseudoplatanus & Fagus sylvatica</i>	To 19	2 +	37, 49 & 57	4	6	5	Three close growing specimens all single stemmed and vertical with crowns that merge into one. No evidence of significant pruning and no major visible defects.	No action required.	GOOD	GOOD	LOW	10-20	
T 19	Mature Beech <i>Fagus sylvatica</i>	18	2	46	4	3	5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of previous pruning and no major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	
T 20	Early-mature Beech <i>Fagus sylvatica</i>	15	6	30	3	2	3	Single stemmed and vertical with a balanced crown which overhangs the boundary. No evidence of significant pruning and no major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	

Tree Ref	Age	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
	Species Latin Name				N	E	W							
T 21	Mature Sycamore <i>Acer pseudoplatanus</i>	20	6	68	5	5	2	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of previous pruning and no major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	B
T 22	Mature Sycamore <i>Acer pseudoplatanus</i>	20	40	65	5	4	4	Single stemmed and vertical with a well-developed crown which overhangs the boundary, good branch junctions throughout. No evidence of significant pruning and no major visible defects. Epicormic growth to base.	No action required.	GOOD	GOOD	LOW	20-40	B
T 23	Mature Sycamore <i>Acer pseudoplatanus</i>	13	0.5	42	4	2	2	Single stemmed and vertical with a slightly unbalanced crown which overhangs the boundary. No evidence of significant pruning and no major visible defects. Epicormic growth to base.	No action required.	GOOD	GOOD	LOW	20-40	B
T 24	Mature Beech <i>Fagus sylvatica</i>	19	2.5	69	6	7.5	4	Single stemmed and vertical with a well-developed crown which overhangs the boundary, good branch junctions throughout. No evidence of previous pruning and no major visible defects. Minor deadwood to lower crown.	No action required.	GOOD	GOOD	LOW	20-40	B
T 25	Mature Sycamore <i>Acer pseudoplatanus</i>	19	2.5	73	6	3	5	Single stemmed and vertical with a well-developed crown overhangs boundary, good branch junctions throughout. No evidence of previous pruning and no major visible defects. Deadwood to crown.	No action required.	GOOD	GOOD	LOW	20-40	B
T 26	Early-mature Sycamore <i>Acer pseudoplatanus</i>	9	0	29	2	2	5	Single stemmed and vertical with an unbalanced crown which overhangs the boundary. No evidence of previous pruning and no major visible defects. Deadwood to lower crown. Suppressed specimen.	No action required.	GOOD	GOOD	LOW	10-20	C
T 27	Mature Beech <i>Fagus sylvatica</i>	19	3.5 +	80	6	9	7	Single stemmed and vertical with a well-developed crown which overhangs the boundary, good branch junctions throughout. No evidence of previous pruning and no major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	B
T 28	Mature Beech <i>Fagus sylvatica</i>	16	3	45	5	2	1	Single stemmed and vertical with an unbalanced crown which overhangs the boundary. No evidence of previous pruning and no major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	B
T 29	Mature Beech <i>Fagus sylvatica</i>	18	6	58	4	6	4	Single stemmed and vertical with a well-developed crown which overhangs the boundary, good branch junctions throughout. No evidence of previous pruning and no major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	B
T 30	Early-mature Wych Elm <i>Ulmus glabra</i>	8	1	38	4	5	4	Single stemmed and vertical with a balanced crown which overhangs the boundary. No evidence of previous pruning and no major visible defects.	No action required.	GOOD	FAIR	LOW	10-20	C

Tree Ref	Age Species Latin Name	Height (m)	Crown Height (m)	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)
					W	N	E						
T 31	Mature Beech <i>Fagus sylvatica</i>	18	4.5	85	8	9	8	Single stemmed and vertical with a well-developed crown which overhangs the road and building. good branch junctions throughout. No evidence of significant pruning and no major visible defects.	No action required.	GOOD	GOOD	MOD	20-40
T 32	Mature English Elm <i>Ulmus procera</i>	18	3 +	72	8	4	7	Single stemmed and vertical with a well-developed crown which overhangs the building. good branch junctions throughout. Multiple pruning wounds. (healing well). No major visible defects. Major deadwood to lower crown.	Crown clean and crown lift.	GOOD	GOOD	LOW	10-20
T 33	Mature Sycamore <i>Acer pseudoplatanus</i>	16	4	50	5	6	2	Single stemmed with a slight lean and an unbalanced crown which overhangs the road. Bleeding exudates and debris at the base.	Clear debris and monitor annually.	FAIR	FAIR	MOD	10-20
T 34	Mature English Elm <i>Ulmus procera</i>	16	4	43 & 49	3	5.5	4	Twin-stemmed at 0.5m with a slightly unbalanced crown which overhangs the road. Occasional pruning wounds due to crown lifting. (healing slowly). No major visible defects. Canker and epicormic growth to the stem and base.	Monitor annually.	FAIR	FAIR	LOW	10-20
T 35	Mature Beech <i>Fagus sylvatica</i>	18	5	101	7	7	7	Single stemmed and vertical with a well-developed crown which overhangs the building. good branch junctions throughout. Occasional pruning wounds due to crown lifting. (healing slowly). Deadwood to lower crown. Ganoderma fungus at base.	Monitor annually.	GOOD	GOOD	MOD	20-40

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 1 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 FdSc Arb Tech Arbor.A. 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), MArbor.A. 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 FdSc (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.

Phil Humeniuk FdSc (Arboriculture), MicFor. Phil has recently joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He obtained his foundation degree in Arboriculture at the University of Central Lancashire.

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

AP E Barne

Andrew Bagshaw FDS Arb Tech ArborA

13th September 2011

For and on behalf of *JCA Ltd*

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