

ARBORICULTURAL REPORT
to BS 5837:2012
at
86a Burton Road
Barnsley
South Yorkshire
S71 2AA

Client:
Silkstone Environmental Ltd

Client Address:
Thorncliffe Park
Chapeltown
S35 2PH

Client Telephone:
0114 2573409

JCA Ref:
13548/ChC

JCA Limited
Arboricultural & Ecological Consultants

Contents

1. Introduction 3
1.1 Purpose of the Report 3
1.2 Terms of Reference 3
1.3 Scope of the Report 3
1.4 Survey Details 4
2. Site Description 4
2.1 Land Use & Topography 4
2.2 Treescape & Visual Amenity Value 4
2.3 Age Class Mix & Species Diversity 5
3. Status of the Trees 5
4. Tree Descriptions and Recommendations 5
5. Discussion Relating to the Existing Treescape 6
5.1 Tree Condition & Recommended Works 6
5.2 Tree Removals for Arboricultural Purposes 6
5.3 Remedial Tree Works 6
5.4 Monitoring/ Further Investigation 6
5.5 Existing Site Constraints and General Design Advice 7
6. Conclusions 9
Appendix 1: Tree Descriptions and Recommendations 11
Appendix 2: Explanation of Tree Descriptions 12
Appendix 3: General Guidelines 15
Appendix 4: Glossary of Terms & Abbreviations 16
Appendix 5: Author Qualifications 17
Appendix 6: Tree Constraints Plan 18

© JCA Limited 2017

1. Introduction

1.1 Purpose of the Report

1.1.1 This report is required at **86a Burton Road, Barnsley,** to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.1.2 The purpose of this report is to summarise the findings of an arboricultural assessment of the existing vegetation at the above site; conducted in accordance with the guidelines contained within BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.

1.1.3 This report will outline any tree works which are required within the current context of the site. It will also grade the trees in accordance with the British Standard; which should guide the design in terms of which trees are to be retained and which trees are to be removed.

1.2 Terms of Reference

1.2.1 JCA Ltd has been instructed by **Silkstone Environmental Ltd** to survey the site and prepare the findings in a report.

1.2.2 For this purpose a topographical survey has been supplied (**Drawing No. S8824-3D**), which forms the basis for the Tree Constraints Plan at **Appendix 6**. The topographical survey, along with all other documents supplied to JCA, is assumed to be correct. No checking of such documents will be undertaken and JCA cannot be held responsible for incorrect data supplied by other parties.

1.3 Scope of the Report

1.3.1 This report is compiled in accordance with *BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'* and is based on an objective assessment of the existing vegetation.

1.3.2 Preliminary recommendations are given with a view to the long-term management of sustainable tree cover and to uphold the interests of health and safety.

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.

© JCA Limited 2017

1.4 Survey Details

1.4.1 The survey took place during the month of May 2017.

1.4.2 During this survey, all trees were inspected from ground level. Further investigations, such as a climbed inspection or a decay detection survey, have not been undertaken on this occasion.

1.4.3 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible, measurements were estimated to the best ability of the surveyor. JCA endeavour to provide accurate information and will always take measurements unless inhibited by restricted access or other mitigating circumstances. Where measurements have been estimated, they are clearly highlighted at **Appendix 1.**

2. Site Description

2.1 Land Use & Topography

2.1.1 The site is currently a piece of land off Burton Road, adjacent to several residential dwellings.

2.1.2 There is a boundary fence in place but it is unknown whether this is the actual boundary for the site.

2.1.3 The site slopes steeply from the southern boundary up towards the northern boundary. There is approximately 5m difference in levels between these boundaries.

2.2 Treescape & Visual Amenity Value

2.2.1 Surrounding the site is a residential area containing occasional garden and street trees.

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

2.2.3 The trees on site collectively provide a reasonable visual amenity to the surrounding area. However, as the majority of the trees are growing along the western and northern boundaries, they provide good screening for the site.

2.2.4 Several trees are located outside of the boundary fence, as such it is unknown whether these trees are located on the site or not. However, if they are not, they are definitely within influencing distance of the site.

© JCA Limited 2017

2.3 Age Class Mix & Species Diversity

2.3.1 The trees surveyed were either semi-mature or early-mature in age.

2.3.2 Species surveyed include Sycamore, Hawthorn and Goat Willow.

3. Status of the Trees

3.1 A check was made in May 2017 with ***Barnsley Metropolitan Borough Council's Online Mapping System.***

3.2 We are informed that there is no Tree Preservation Order (TPO) in force and that the site is not located 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 in the future. This is especially relevant as the Council is able to serve a TPO at any time. We are able to arrange a further check on your behalf.

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.

© JCA Limited 2017

5. Discussion Relating to the Existing Treescape

5.1 Tree Condition & Recommended Works

5.1.1 The tree survey revealed a total of **13** items of vegetation (**11** individual trees and **2** groups of trees).

5.1.2 Of these, **10** trees and **1** group were identified as retention category 'B',

5.1.3 **1** tree and **1** group were identified as retention category 'C'.

5.1.4 There were not retention Category 'A' or 'U' trees present on this occasion.

5.1.5 Please refer to **Appendix 2** for retention category and definition criteria.

5.1.6 Within the survey, tree works have been identified to ensure the long-term health of the trees or for general maintenance purposes. Such recommendations have been made without regard to any projected layout and should be undertaken irrespective of development. These are summarised in the following sections. For full details on all recommendations, please refer to **Appendix 1.** For an explanation of the priority ratings, see **Appendix 2 (A2.2.5).**

5.2 Tree Removals for Arboricultural Purposes

5.2.1 On this occasion, no trees have been identified as category 'U' and as such no trees are recommended for removal in the current context of the site.

5.3 Remedial Tree Works

5.3.1 Remedial tree works have been recommended to manage foreseeable risks, to prevent the development of defects or for general maintenance purposes. This is relevant to **T2, T4** and **T5**.

5.3.2 The work recommended for these trees should be carried out as a matter of **low priority**.

5.4 Monitoring/ Further Investigation

5.4.1 In this case, no specific monitoring (re-inspecting and re-assessing) or further investigation works are considered necessary due to visible defects. However, all trees to be retained within the proposed development should be inspected on a regular basis in the interests of risk management and those trees which were fenced off at the time of the survey should be re-surveyed once full access has been made available.

© JCA Limited 2017

5.5 Existing Site Constraints and General Design Advice

5.5.1 The following is an overview of the constraints on this site to development, along with general design considerations relating to the tree cover. The precise details of a proposed development are not known at present. The specific implications of a proposed design should be assessed within an Arboricultural Implications Assessment (AIA).

5.5.2 The retention categories of the trees surveyed are an indication of their overall values. The category of each item is listed at **Appendix 1** and an explanation of the retention categories is included at **Appendix 2**. As a general rule, those trees listed as retention category 'A' or 'B' are the most valuable items and as such the removal of these is likely to be met with resistance by the Local Planning Authority (LPA). Those items listed as retention category 'C' are of lesser value and the removal of these is less likely to be met with resistance by the LPA. Items listed as retention category 'U' are recommended for removal regardless of any proposals and should not present a constraint to construction. The above information should guide the design in terms of which trees are to be removed and which are to be retained. However, it should be noted that the retention of trees is just one consideration in the design process and each development will be taken for its merits.

5.5.3 The location of each tree is plotted on the associated Tree Constraints Plan at **Appendix 6**. This plan identifies the retention category of each tree (Retention A: green canopy, Retention B: blue canopy, Retention C: grey canopy, Retention U: red canopy), the crown spread, and also the associated rooting zone (Root Protection Area or RPA shown in gold). In order to enable the survival of trees shown to be retained within any proposals, both the canopy of the tree and its RPA must be completely avoided wherever possible. This relates to not just the location of new buildings, but also to the location of new areas of hard standing, proposed utility routes and any ground level changes (both excavations and soil piling). Where this is not possible, specialist construction methods and materials will need to be used.

5.5.4 Where information is available, the water demand of each tree is provided at **Appendix 1**, in accordance with NHBC Standards 2014 chapter 4.2. 'Building near trees'. The water demand of trees can affect adjacent structures and this is therefore included to inform foundation design, depth and the proximity of proposed structures to trees.

5.5.5 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 and care should be taken to retain these trees as they offer good natural screening for the site.

5.5.6 There are a number of good amenity trees within the site. They will enhance any proposed development and care should be taken at the design stage to ensure that these trees are retained.

5.5.7 A tarmac entrance already exists offering vehicular access to the site. If this can be retained it will minimise disturbance to tree roots and unnecessary tree removals.

© JCA Limited 2017

5.5.8 Retained trees will require adequate protective measures during development. Such measures typically entail temporary protective fencing, installed to the full extent of the RPA. Where this is not entirely possible, ground protection may also comprise part of the protective measures. This includes a compaction reducing construction detail which enables a degree of construction traffic over/within the RPA.

5.5.9 As the RPAs of the trees will require fencing off as a protection measure, this should be brought into consideration when planning such things as access routes and material storage during development. It is accepted that in some cases it is not entirely possible to completely avoid the RPA or canopy lines within a new development. The consulting arboriculturalist should therefore be made aware of any such incursions to make comment and, where possible, advise on mitigation actions. Such details should be contained within an Arboricultural Implications Assessment (AIA).

5.5.10 No material storage is permitted within the RPA of retained trees unless confirmed to be acceptable by the consulting arboriculturalist. The exact details and location of protective measures should be included within an Arboricultural Method Statement (AMS).

5.5.11 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.

5.5.12 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.

5.5.13 Many development sites contain areas of nature conservation interest. Trees and hedgerows, in particular, can 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 Surveys and Bat Surveys where required.

5.5.14 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.

© JCA Limited 2017

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 and the site is not located within a Conservation Area.

6.3 At present, none of the trees on this site require removal for reasons regardless of development.

6.4 Three trees have been recommended for remedial works. This is to manage potential risks, prevent the development of defects or for general maintenance purposes. These are discussed in **Section 5.3** and detailed at **Appendix 1**.

6.5 Existing site constraints and general design advice has been provided in **Section 5.5**. Upon provision of specific proposals, site-specific advice can be given with regards to the impact on trees. In accordance with **Section 5.4** of **BS 5837: 2012**, the next stage on this site should be the preparation of an **Arboricultural Impact Assessment (AIA)**, which will illustrate and discuss the impact of the proposals on the trees and vice versa, to help to inform good design.

6.6 The data gained during the survey provides an indication of the health of the trees. However, it does not enable a comprehensive assessment of their condition over time. Trees are living organisms which are affected by many factors including weather conditions, diseases/disorders, light levels and human activities. Because of this, this report is only valid for a period of 1 year from the date of issuing. Should an update or revision of this report be required outside of this time period, JCA may require a further site visit to ensure that the condition of the trees has not significantly changed. It is advised that the trees are inspected regularly, in the interests of risk management.

© JCA Limited 2017

Appendices

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 1	Semi-mature Sycamore *Acer pseudoplatanus*	12	4	3.5 E	24	1.5 2.5 3 3.5	Single-stemmed with a slight lean and a reasonably balanced crown. Possibly situated on adjacent land but close to, and overhanging the site boundary. Offering good screening value for the site alongside with T2. No major visible defects were observed.	No action required at present. n/a	GOOD	GOOD	MOD	MOD	20+	B 2
T 2	Early-mature Sycamore *Acer pseudoplatanus*	14	5	n/a n/a	16 + 25 + 26	5 4 3 5	Multi-stemmed at ground level with a balanced crown. Offering good screening value for the site alongside with T1. Epicormic growth noted at the base of the tree. No major visible defects were observed.	Remove the epicormic growth. Low	GOOD	GOOD	MOD	MOD	20+	B 2
G 3	Early-mature Hawthorn *Crataegus monogyna*	9	1+	n/a n/a	32 + 15 x 2 stems	4.5 3 3.5 3.5	2 trees forming one canopy. Ivy on the main stems and throughout the canopy. Crossing branches noted. Acceptable condition at present.	No action required at present. n/a	FAIR	FAIR	LOW	HIGH	10+	C 2
T 4	Early-mature Goat Willow *Salix caprea*	12	4	n/a n/a	30 + 24 + 13	3.5 3.5 4.5 6	Multi-stemmed at ground level with a slightly unbalanced crown. Occasional branch stubs and deadwood noted. Minor included bark at the stem junction noted. Offering good screening value alongside T5. Acceptable condition at present.	Crown clean by removing the branch stubs and deadwood. Low	FAIR	FAIR	MOD	HIGH	20+	B 2
T 5	Semi-mature Goat Willow *Salix caprea*	11	5	n/a n/a	Avg. 15 x 4 stems	3 3 2 2.5	Multi-stemmed at ground level with a slightly unbalanced crown. Minor deadwood in the lower canopy noted. Offering good screening value alongside with T4. Acceptable condition at present.	Crown clean by removing any deadwood. Low	FAIR	FAIR	MOD	HIGH	20+	B 2
T 6	Early-mature Goat Willow *Salix caprea*	10	4	2.5 E	#28	1 3.5 5.5 6	Possibly situated on adjacent land but growing close to, and overhanging the site boundary. Limited inspection due to fenced off location. Single-stemmed and leaning with a slightly unbalanced crown. Offering good screening value alongside T7. Acceptable condition at present.	No action required at present. n/a	GOOD	FAIR	MOD	HIGH	20+	B 2
T 7	Early-mature Goat Willow *Salix caprea*	12	6	n/a n/a	16 + 10 + 20	3.5 4 4 1.5	Possibly situated on adjacent land but growing close to, and overhanging the site boundary. Limited inspection due to fenced off location. Multi-stemmed at ground level with a slightly unbalanced crown. Offering good screening value alongside T6. Acceptable condition at present.	No action required at present. n/a	GOOD	FAIR	MOD	HIGH	20+	B 2
T 8	Early-mature Sycamore *Acer pseudoplatanus*	14	4	n/a n/a	20, 20, 10, 10	3.5 3 6.5 3	Possibly situated on adjacent land but growing close to, and overhanging the site boundary. Limited inspection due to fenced off location. Multi-stemmed at ground level with a slightly unbalanced crown. Appears to be in a healthy condition with no major visible defects.	No action required at present. n/a	GOOD	GOOD	MOD	MOD	20+	B 2
T 9	Semi-mature Hawthorn *Crataegus monogyna*	7	2	n/a n/a	10, 9, 7, 5	2 1 2 2	Multi-stemmed at ground level with a balanced crown. Insignificant specimen offering little value to the site.	No action required at present. n/a	FAIR	FAIR	LOW	HIGH	10+	C 2
G 10	Semi-mature Hawthorn *Crataegus monogyna*	to 8	1+	n/a n/a	Avg. 10 x 5 stems	2.5 2.5 2 2	Possibly Situated on adjacent land but growing close to the site boundary. 2 trees forming one canopy. Good amenity and ecological value when viewed collectively. Acceptable condition at present.	No action required at present. n/a	GOOD	FAIR	MOD	HIGH	20+	B 2

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 11	Early-mature Sycamore *Acer pseudoplatanus*	14	5	n/a n/a	32 x 3 stems	4.5 7 2.5 5	Possibly situated on adjacent land but growing close to, and overhanging the site boundary. Limited inspection due to fenced off location. Multi-stemmed at ground level with a balanced crown. A well developed, dense canopy offering good amenity value for the site. No major visible defects were observed.	No action required at present. n/a	GOOD	GOOD	MOD	MOD	20+	1 B 2
T 12	Early-mature Sycamore *Acer pseudoplatanus*	12	5	n/a n/a	#37	5 4 5 4	Possibly Situated on adjacent land but growing close to, and overhanging the site boundary. Limited inspection due to fenced off location. Single-stemmed and vertical with a balanced, well developed canopy. Offering good amenity value for the site. No major visible defects were observed.	No action required at present. n/a	GOOD	GOOD	MOD	MOD	20+	1 B 2
T 13	Early-mature Sycamore *Acer pseudoplatanus*	10	2	n/a n/a	#32	4.5 3.5 4 3.5	Single-stemmed and vertical with a balanced, well developed canopy. Limited inspection due to restricted access. No major visible defects were observed.	No action required at present. n/a	GOOD	GOOD	MOD	MOD	20+	1 B 2

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements/ Reference Information

A2.1.1 *REF NUMBER.* All items surveyed are allocated a reference number preceded with a letter, identifying the type of vegetation surveyed: T = an individual tree, G = a group of trees or an area of vegetation, W = woodland, H = a hedgerow.

A2.1.2 *SPECIES: COMMON AND BOTANICAL NAME*. The common and botanical names of the species present are noted. If the species is not clear or identifiable, then a general common name and genus will be noted.

A2.1.3 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, over-mature, veteran or dead.

A2.1.4 *HEIGHT* of the tree is measured in metres from the stem base to the top of the crown.

A2.1.5 *CROWN HEIGHT* is an indication of the height above ground level at which the crown begins.

A2.1.6 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; diameter measurements are taken for each stem. If more than five stems are present, an average stem diameter is taken. If for whatever reason it is not practical to measure multiple-stemmed trees in this way, the diameter is measured close to ground level, just above the root buttress.

A2.1.7 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches to all four cardinal points.

A2.1.8 *HEIGHT AND DIRECTION OF LOWEST BRANCH.* The height and direction of the lowest significant branch is noted because of potential issues relating to clearances and the need for tree pruning.

A2.1.9 *NHBC WATER DEMAND.* The water demand of each tree, as listed in NHBC Standards 2010 Chapter 4.2 'Building near trees'. This is included to aid structural engineers, architects and other members of the design team as it determines foundation depth and other considerations with regard to trees.

© JCA Limited 2017

A2.2 Evaluations

A2.2.1 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health and vitality of the tree and takes into account vigour, presence of disease and dieback.

A2.2.2 *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.

A2.2.3 *LIFE EXPECTANCY* is classed as; Dead, less than 10 years, 10+ years, 20+ years, or 40 + years. This is an indication of the minimum number of years before removal of the tree is likely to be required.

A2.2.4 *AMENITY VALUE.* A general indication is given in respect to the amenity/landscape value of the tree/group within the surrounding area.

A2.2.5 *PRIORITIES.* A priority rating is given concerning the time periods in which the recommended works should be undertaken. LOW priority works should be undertaken within 12 months of the survey, MOD (moderate) priority works should be undertaken within 6 months and HIGH priority works should be completed as soon as practically possible. If no works are recommended, N/A (not applicable) will be used.

A2.3 Retention Categories

A2.3.1 ***A (marked green on the plan) = Trees of high quality.***

These trees are of high quality and value with a good life expectancy (usually with an estimated remaining life expectancy of 40 years).

A2.3.2 ***B (marked in blue on the plan) = Trees of moderate quality.***

These trees are of moderate quality and value with a reasonable life expectancy (usually with an estimated life expectancy of at least 20 years).

A2.3.3 ***C (marked in grey on the plan) = Trees of low quality.***

These trees are of low quality and value but which are in adequate condition to remain or are young trees with a stem diameter below 15cm (usually with an estimated life expectancy of at least 10 years).

A2.3.4 Trees categorised as retention category 'A', 'B' or 'C' are then justified by being further divided into 3 subcategories:

1 = Mainly arboricultural qualities.

2 = Mainly landscape qualities.

3 = Mainly cultural values, including conservation value.

© JCA Limited 2017

A2.3.5 ***U (marked in red on the plan) = Trees usually unsuitable for retention due to poor condition.***

These trees are in such a condition that they cannot be realistically retained as living trees in the context of the current land use for longer than 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 U 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.

© JCA Limited 2017

Appendix 3: General Guidelines

A3.1 All tree work should be undertaken to BS 3998: 2010 '*Recommendations for tree work'* or other recognised industry practice.

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 therein.

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 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 on a regular basis.

© JCA Limited 2017

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 or fruit.

Canker Disease damaged area of a tree, usually caused by fungus or bacteria affecting the bark.

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 reduction The reduction of a tree's height and 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 clusters around the base of the stem of a tree or within the crown. This is usually as a result of bad pruning or some other stress factor, although can be a natural growth pattern for some species of tree (eg Lime species).

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 and principle branches of the tree are cut to the same height, 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 – Theoretical rooting area of a tree as defined in BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations'*.

Topping Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping can cause serious health problems to a tree.

© JCA Limited 2017

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. Jonathan has since developed JCA's portfolio of services and its extensive client base. He 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 Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Coordinator and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

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) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid *ND* *(Arboriculture and Forestry).* Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey. Andrew joined JCA having spent 12 years working as a tree surgeon 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.

Phil Humeniuk *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Emily Wilde *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham *ND (Forestry).* Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Charles Cocking. Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. In between his roles at JCA, Charles will be studying at Askham Bryan College, York, undertaking a two year course in order to obtain a Foundation Degree in Arboriculture (FdSc Arboriculture).

Consulting Staff: Ecology

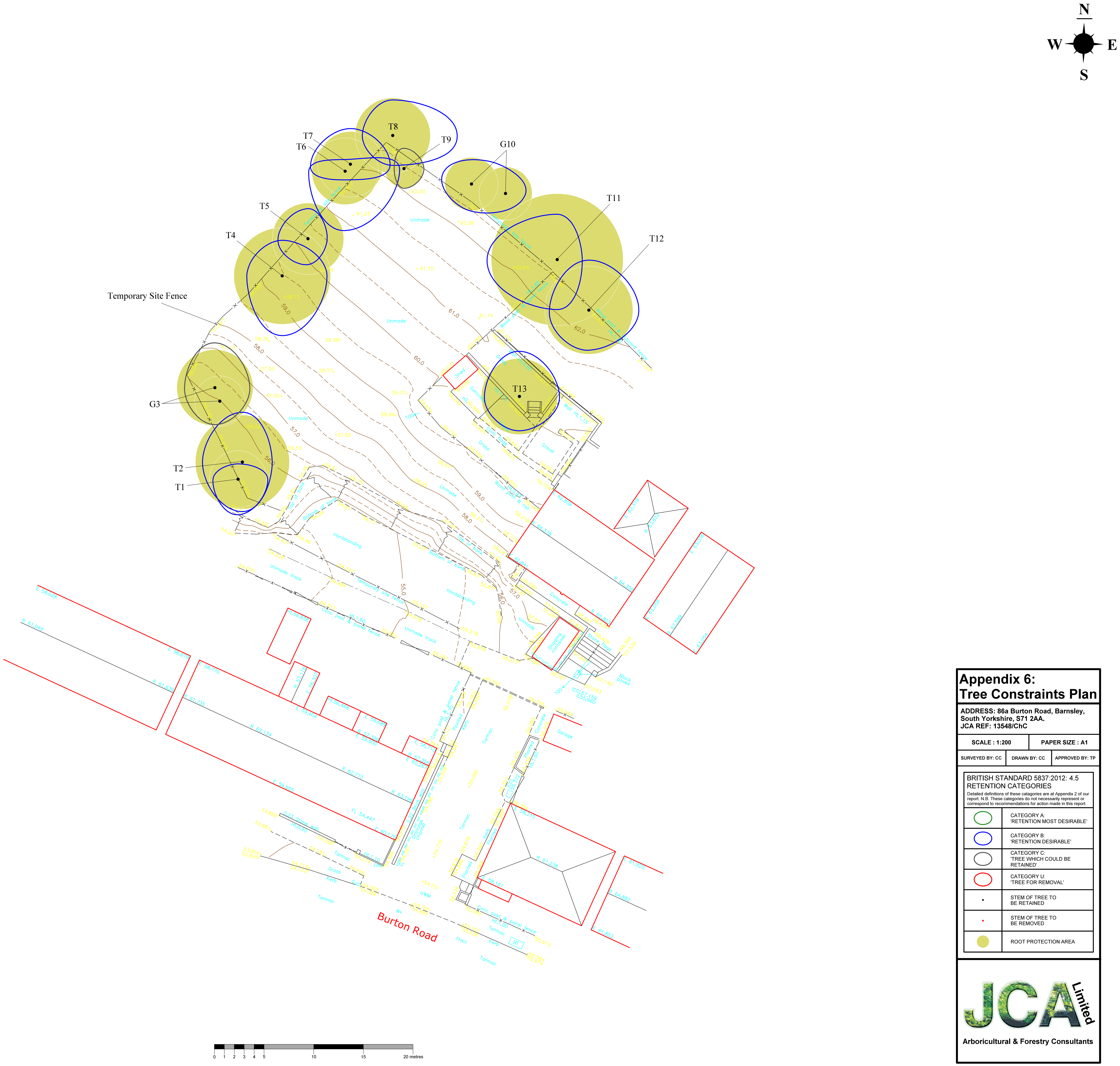
Josie Collier *BSc (Hons) Ecology.* Josie joined JCA's ecology department and brings with her a degree in Ecology and Environmental Biology from the University of Leeds. Josie has gained experience from working with a local authority and is seeking to become a member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

David Bodenham *BSc Ind (Hons) Zoology, MSc Biodiversity and Conservation.* David joined JCA as an addition to the expanding ecology department. An advocate of evidence based conservation, he studied Zoology (Ind) at University and moved onto an MSc in Biodiversity and Conservation where he gained the myriad of skills needed as an ecologist. With over 7 years of experience, David specialises in bat and amphibian ecology.

Administrative Staff

Sue Guest Administrative Team Leader.
Simeon Haigh *BSc (Hons).* IT Officer.
Lorraine Spink Administrative Assistant.
Yasmin Shahzad Administrative Assistant.
Catherine Cocking Accounts Manager.

© JCA Limited 2017



Appendix 6: Tree Constraints Plan

ADDRESS: 86a Burton Road, Barnsley, South Yorkshire, S71 2AA.
JCA REF: 13548/ChC

SCALE : 1:200	PAPER SIZE : A1	
SURVEYED BY: CC	DRAWN BY: CC	APPROVED BY: TP

BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES

Detailed definitions of these catagories 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.

Symbol	Meaning
Green circle	CATEGORY A: 'RETENTION MOST DESIRABLE'
Blue circle	CATEGORY B: 'RETENTION DESIRABLE'
Grey circle	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
Red circle	CATEGORY U: 'TREE FOR REMOVAL'
Black dot	STEM OF TREE TO BE RETAINED
Red dot	STEM OF TREE TO BE REMOVED
Yellow-green filled circle	ROOT PROTECTION AREA

JCA Limited
Arboricultural & Forestry Consultants

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.

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



.....

Charles Cocking

On behalf of

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.*

19th May 2017

For and on behalf of ***JCA Ltd***

Registered Office:

Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 OAD

Tel. 01422 376335
Fax. 01422 376232
Email: jon@jcaac.com

www.jcaac.com

Report printed on recycled paper

© JCA Limited 2017

JCA Ltd. Arboricultural and Ecological Consultants
Professional Tree and Ecology Advice nationwide

ARBORICULTURAL SERVICES

Guidance for Architects and Developers

- British Standard 5837 Tree Surveys
- Arboricultural Implication Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)



HEAD QUARTERS:

Unit 80 Bowers Mill,
Branch Road,
Barkisland,
Halifax, HX4 0AD.

Tel: 01422 376335
Mobile: 07778 391986
Email: jon@jcaac.com
Website: www.jcaac.com

Company Reg No. 05005041
VAT No. 686 4674 78