ARBORICULTURAL IMPACT ASSESSMENT
to BS 5837:2012
at
Glebe Farm
Barnsley Road
Silkstone
South Yorkshire
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JCA Limited
Arboricultural & Ecological Consultants

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1. Introduction

1.1 Purpose of the Report

1.1.1 This Arboricultural Impact Assessment is required in relation to the proposed development at **Glebe Farm**, **Barnsley Road**, **Silkstone**.

1.1.2 The purpose of this report is to assess the impact of the proposals on the existing tree stock and outline mitigation actions, where appropriate, to minimize potential damage to retained trees.

1.2 Terms of Reference

1.2.1 JCA Ltd has been instructed by **Spawforths** to prepare an Arboricultural Impact Assessment, based on our Arboricultural Report dated 28th October 2016 (JCA Ref: **13120/AJB**). The arboricultural survey and report conforms to the most recent specifications outlined in BS 5837: 2012 Trees in relation to design, demolition and construction - Recommendations.

1.2.2 **Drawing No. PR-Site Layout D** has been supplied which details the proposed development. The tree data has been overlaid onto the proposed designs to create the Arboricultural Implications Plan, which can be found at **Appendix 7**. This provides the basis for which this Arboricultural Impact Assessment has been prepared.

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 The specific design of the proposed development has been considered within the Arboricultural Implication Assessment in **Section 3** and is detailed on the Arboricultural Implications Plan at **Appendix 7**.

1.4 Survey Details

1.4.1 The original survey took place during the month of October 2016 and was conducted by Andrew Bussey.

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2. Tree Descriptions and Recommendations

2.1 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.

3. Arboricultural Implications Assessment (AIA)

3.1 Proposed Development

3.1.1 The proposed development will consist of the construction of three detached residential dwellings with associated driveways.

3.1.2 All tree works required to accommodate the proposals are detailed in *italics* in the recommendation columns of the tables at **Appendix 1**.

3.2 Tree Removals for Development

3.2.1 **G2, T3, T4, T5, T6, T7, G11, T12** and **T13** require removal to accommodate the proposals. These include **2** category 'B' trees (**T6** and **T7**) and **7** category 'C' trees/groups **(G2, T3, T4, T5, G11, T12** and **T13**).

3.2.2 Most of the trees requiring removal are retention category 'C' and can be removed without significantly affecting the visual amenity of the surrounding area.

3.2.3 Whilst the development will require the removal of some trees within the site, it should be noted that a planting scheme is included within the proposals. This will act to mitigate tree losses, improve the visual benefits of the site and the surrounding area, and will improve the localised tree stock.

3.3 Pruning for Development

3.3.1 No pruning works are required to accommodate the proposed layout.

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3.4 Implications for Retained Trees

3.4.1 The Protective Barrier

3.4.1.1 In order to ensure the effective protection of retained trees during development, a protective barrier will be installed, in accordance with BS5837: 2012 and may comprise of protective fencing and/or ground protection. This will be the first job on site following the tree removal and pruning works. The fencing should ideally be positioned to protect the entire **Root Protection Area** (**RPA**) of the retained trees, in order to create a **Construction Exclusion Zone** (**CEZ**).

3.4.1.2 Routes for pedestrian and site traffic should ideally be located outside, and diverted away from, the RPAs of the retained trees. Where this is not possible, temporary protective surfaces (ground protection) must be laid over the exposed RPAs which will distribute the weight of site vehicles, machinery or pedestrians whilst allowing moisture to reach the tree rooting area beneath. Such surfaces should be constructed in accordance with BS5837: 2012.

3.4.2 Access/Construction of Hard Surfacing

3.4.2.1 The proposed development entails the construction of hard surfacing in the form of an access driveway within the RPA of **T9** (tree located within adjacent land). In order to prevent foreseeable damage to tree roots, a 'no-dig' method of construction will be utilised.

3.4.2.2 The chosen system must be fit for purpose and of suitable construction to dissipate compaction damage to tree roots, allow gaseous diffusion to/from the soil and the percolation of water to the soil surface. This may require the use of specialist materials and sensitive edging systems to prevent damage to tree roots. It is recommended that this surfacing be constructed as an initial phase of construction, in order to afford the maximum protection throughout development. Design principles should be included in an Arboricultural Method Statement and confirmed by an appropriately qualified engineer.

3.4.3 Demolition

3.4.3.1 In this case, no significant demolition activities are required adjacent to retained trees and as such, no mitigation measures are considered necessary.

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3.4.4 Construction/ Foundation Design.

3.4.4.1 Prior to construction, all protective measures required and listed in **Section 3.4.1** (protective measures) and **Section 3.4.2** (hard surfaces) should be correctly installed to prevent unnecessary damage during development.

3.4.4.2 The footprint of the proposed structures does not incur the RPA of retained trees. As such no specialist construction or foundation methods are considered necessary for the sole purpose of preventing damage to trees.

3.4.4.3 Despite this, specialist foundation designs may still be required for other reasons, and advice should always be sought from a suitably qualified structural expert. The water demand of trees can be an important consideration when determining the appropriate foundation design. Because of this, water demands for the trees identified on this site are included at **Appendix 1**, in accordance with **NHBC Chapter 4.2**, for use by the appointed structural expert.

3.4.5 Utilities

3.4.5.1 Details on service routes are not available at this time. Where utilities need to be brought onto the site, these should be routed away from the RPAs of retained trees. Where this is not possible, methodologies on the installation of underground services without damage to tree roots should be considered.

3.4.5.2 All service providers should be consulted prior to commencement of works with the aim of minimising the number of service runs on the site. Any foreseeable incursions to RPAs should be communicated to the appointed arboricultural consultant and the LPA at the earliest possible time to prevent breach of planning conditions and damage to retained trees.

3.4.6 Site Compound

3.4.6.1 The site compound, which typically includes the site office, mess facilities, toilets, storage of materials and parking, must be located away from all of the trees and outside their RPAs. Care should also be taken to prevent soil contamination from chemical spillages, including petrol, diesel and oils.

3.4.7 Tree Shade

3.4.7.1 Any problems of shading in relation to new buildings caused by retained trees are likely to be minimal as the trees are deciduous, and light penetration will increase in the winter when the sun is lowest.

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3.4.8 Landscaping

3.4.8.1 Any proposed fence lines may be constructed within the RPA if necessary, providing that appropriate considerations are made to the protection of the tree. This is providing that no continual trenching is undertaken (e.g. for small walls onto which panel fencing is installed). Excavation must be kept to a minimum and therefore only fence designs requiring intermittent posts will be acceptable within the RPA of retained trees.

3.4.8.2 Any patios, garden paths or other hard surfaces within RPAs which may not be shown on the projected layout (**Appendix 7),** and in addition to those mentioned in **Section 3.4.2** (hard surfacing), may be constructed using no-dig techniques, providing that they do not cover more than 20% of the RPA and are implemented in accordance with BS5837: 2012. If there is any concern of damaging retained trees, further advice should be sought from a qualified Arboriculturalist.

3.4.8.3 No ground level changes are to be undertaken within the RPA of retained trees, unless otherwise stated or agreed with the appointed Arboricultural consultant or the LPA. The requirement to raise/lower ground levels within RPAs should be communicated to these parties at the earliest practical convenience.

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4. Conclusions

4.1 The trees are not protected by a Tree Preservation Order or by virtue of them being in a Conservation Area.

4.2 Some tree works were recommended during the original survey, irrespective of the development proposals. This is to manage potential risks, prevent the development of defects or for general maintenance purposes. These are detailed at **Appendix 1**.

4.3 The arboricultural implications of the development have been considered and are discussed in **Section 3**.

4.4 Some trees require removal or pruning works in order to facilitate the proposed development. All tree works are included at **Appendix 1**. These are discussed in **Section 3.2** and their locations are shown on the Arboricultural Implications Plan at **Appendix 7**.

4.5 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.

4.6 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**.

4.7 The proposed development should be accompanied by an Arboricultural Method Statement (AMS) detailing the specific protection measures necessary for each tree. This should specify the required fencing standard and positions (the creation of the Construction Exclusion Zone), acceptable construction techniques and necessary tree works.

4.8 Upon instruction JCA 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.

4.9 The data gained during the original 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. Due to this, the 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.

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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	Mature Common Ash *Fraxinus excelsior*	16	6	6 n/a	50 & 50#	7# 7# 7# 7#	A tree not shown on the topographical survey provided. Situated on adjacent land overhanging the highway and access track. Twin-stemmed at ground level with a balanced crown. No evidence of significant pruning. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	B 2
G 2	Semi-mature Common Ash *Fraxinus excelsior*	To 12	0+	0+ n/a	To 20	See plan	Overhanging the footpath and access track. Two trees of poor form of little significance.	*Remove to facilitate the proposed development.*	GOOD	FAIR	LOW	MOD	10+	C 2
T 3	Semi-mature Common Ash *Fraxinus excelsior*	16	9	9 n/a	29	4 4 4 4	Single-stemmed and vertical with a balanced crown yet slender form.	*Remove to facilitate the proposed development.*	GOOD	FAIR	LOW	MOD	10+	C 2
T 4	Early-mature Weeping Willow *Salix babylonica*	14	1.8	2.5 SW	48	0 7 0 6	Single-stemmed and leaning with an unbalanced crown and a poor form. Moderate deadwood noted.	*Remove to facilitate the proposed development.*	GOOD	FAIR	MOD	HIGH	20+	C 2
T 5	Early-mature Weeping Willow *Salix babylonica*	14	2	4 NW	44	6 9 3 1.5	Single-stemmed and leaning with an unbalanced crown and a poor form. Moderate deadwood noted.	*Remove to facilitate the proposed development.*	GOOD	FAIR	MOD	HIGH	20+	C 2
T 6	Early-mature Common Lime *Tilia x europaea*	14	1	1.5 n/a	43	5 4 5 5	Twin-stemmed at 4m with a balanced crown. No evidence of significant pruning. Possible weak union at the stem junction.	*Remove to facilitate the proposed development.*	GOOD	FAIR	MOD	MOD	20+	B 2
T 7	Early-mature Common Lime *Tilia x europaea*	14	1	1.5 n/a	42	5 5 4 5	Twin-stemmed at 4m with a balanced crown. No evidence of significant pruning. Possible weak union at the stem junction.	*Remove to facilitate the proposed development.*	GOOD	FAIR	MOD	MOD	20+	B 2
G 8	Semi to early-mature Wild Cherry *Prunus avium*	13	2+	2+ n/a	To 40	See plan	A group of standing dead trees.	Remove. Low	DEAD	DEAD	DEAD	N/A	Dead	U
T 9	Mature Sycamore *Acer pseudoplatanus*	18	8	8 n/a	90#	9# 9# 7# 9#	Situated on adjacent land within a rear garden. Twin-stemmed at 2m with a balanced crown. Large pruning wounds noted.	Monitor biennially. Low	GOOD	FAIR	MOD	MOD	20+	B 2
G 10	Semi to early-mature Mixed	To 9	0+	0+ n/a	To 30#	See plan	Partially situated on adjacent land. A dense group of Holly, Hawthorn and Sycamore. Not fully inspected due to limited access.	No action required. n/a	GOOD	FAIR	LOW	HIGH	10+	C 2
G 11	Semi-mature Mixed	To 9	1.5	1 n/a	18 & 18	See plan	A Wild Cherry and a Rowan growing together and forming one homogeneous crown.	*Remove to facilitate the proposed development.*	GOOD	GOOD	LOW	MOD	20+	C 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 12	Early-mature Rowan *Sorbus aucuparia*	5	1.5	1.5 n/a	26	3 3 3 3	Multi-stemmed at 1.5m with a balanced crown. No evidence of significant pruning. No major visible defects. Minor deadwood noted.	*Remove to facilitate the proposed development.*	GOOD	GOOD	LOW	MOD	20+	C 2
T 13	Early-mature Tree Cotoneaster *Cotoneaster frigidus*	10	1	1 n/a	20 x 5	4.5 4.5 4.5 4.5	Multi-stemmed at ground level with a balanced crown.	*Remove to facilitate the proposed development.*	GOOD	GOOD	LOW	NO DATA	20+	C 2
T 14	Early-mature Hawthorn *Crataegus monogyna*	8	0	1 n/a	30 & 25	3.5 4.2 3.5 4.2	Overhanging the access track. Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2
T 15	Early-mature Rowan *Sorbus aucuparia*	14	2	2 n/a	46	5 5 3 5.3	Overhanging the access track. Twin-stemmed at 1.8m with a balanced crown. No evidence of significant pruning. Included bark present at the stem junction.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	20+	B 2
G 16	Semi-mature Mixed	To 12	0+	0+ n/a	To 18	3 2.8 2 2.5	Overhanging the access track. A Hawthorn and Rowan growing together as one homogeneous tree.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2
T 17	Early-mature Red Maple *Acer rubrum*	14	2	2 n/a	43	3.5 4.3 4 3.5	Overhanging the access track. Twin-stemmed at 1m with a balanced crown. No evidence of significant pruning. Possible weak union present at the stem junction.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	20+	B 2
T 18	Early-mature Norway Maple *Acer platanoides*	15	2	2 n/a	31	3 6.2 4 4	Overhanging the access track. Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects. A small co-dominant stem is present at the base.	Remove the co-dominant stem at the base. Low	GOOD	GOOD	LOW	MOD	20+	B 2
T 19	Early-mature Common Ash *Fraxinus excelsior*	17	2	3 n/a	39	4.8 6.5 4 6	Overhanging the access track. Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	B 2
G 20	Young to early-mature Mixed	To 14	0+	0+ n/a	To 40	See plan	Overhanging the access track. A group of Wild Cherry, Rowan, Sycamore and Elder of poor individual form. Deadwood and included bark noted.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	10+	C 2
T 21	Early-mature Wild Cherry *Prunus avium*	15	2	1.8 W	49	7 9 3.5 3.5	Overhanging the access track. Multi-stemmed at 1.5m with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	B 2
T 22	Mature Sycamore *Acer pseudoplatanus*	17	2	2 n/a	85#	9# 9# 9# 9#	A tree not shown on the topographical survey provided. Twin-stemmed at 3m with a balanced crown. Occasional pruning wounds. Not fully inspected due to location within boundary fence line.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	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.

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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; 0, 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.

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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.

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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.

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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.
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 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 BS5837:2012 *Trees in relation to construction*.

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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 Director

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 Director 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 *(FdSc Arboriculture).* Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. Charles obtained his Foundation Degree in Arboriculture at Askham Bryan College, York, and is now part of our qualified Arboricultural consultancy team.

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.

Jenny Butler *Bsc (Hons) Environmental Science.* Jenny joined JCA's ecology department in 2017, bringing with her a bachelor degree in Environmental Science from Bangor University. Jenny has previously worked as an Environmental Consultant for an Agri-Environment company and as a freelance ecological consultant. Jenny specialises in great crested newt and bat ecology.

Administrative Staff

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

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N
W E
S

ESTIMATED TREE LOCATION
T22
GLEBE FARM
EAVES LEVEL 99.48
PARAPET LEVEL 104.28
EAVES LEVEL 99.53
STONE WALL
POST & WIRE H 1.0m
TP
POST
HEDGE
GRASS
G10
STONE WALL H 0.6m
405920N
T13
405900N
T12
T21
STUMP
G20
T9
T7
T6
405880N
T5
T4
T3
T19
T18
T17
G16
T15
T14
G11
G8
G2
T1
ESTIMATED TREE LOCATION
POT HOUSE BRIDGE
BRIDLEWAY (SILKSTONE WAGONWAY WALK)
CLOSE BOARDED H 1.0m
TOP OF FENCE
STONE WALL H 0.6m
TEL
ASPHALT
TOP OF WALL
COBBLES
GU
MH.5
MH.4
MH 7
CONCRETE
SIGN
U/S BRIDGE

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.

0 1 2 3 4 5 10 15 20 metres

Appendix 6: Tree Constraints Plan

ADDRESS: Glebe Farm, Barnsley Road, Silkstone, South Yorkshire.
JCA REF: 13120-A/AJB.

SCALE : 1:200	PAPER SIZE : A2

SURVEYED BY: AJB	DRAWN BY: AJB	APPROVED BY: JoC

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.

	CATEGORY A: 'RETENTION MOST DESIRABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY U: 'TREE FOR REMOVAL'
•	STEM OF TREE TO BE RETAINED
•	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA
	ROOT PROTECTION AREA (PRIOR TO OFF-SETTING)

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N

W E

S

ESTIMATED
TREE LOCATION

T22

G10

T9

T13

T21

G20

T19

T18

T17

G16

T15

T14

T12

G11

G8

T7

T6

T5

T4

T3

G2

T1

Plot 1

Plot 2

Plot 3

POST

95.5

95.0

94.5

94.0

93.5

93.0

92.5

92.0

91.5

405900N

405880N

SIGN

GU

MH 7

Barnsley Road

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.

0 1 2 3 4 5 10 15 20 metres

Appendix 7: Arboricultural Implications Plan

ADDRESS: Glebe Farm, Barnsley Road, Silkstone, South Yorkshire.
JCA REF: 13120-A/AJB.

SCALE : 1:200	PAPER SIZE : A2

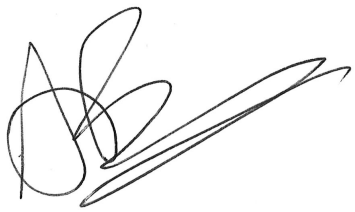
	TREE TO BE RETAINED
	TREE TO BE REMOVED
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA
	ROOT PROTECTION AREA ENCROACHED BY THE PROPOSED HARD SURFACES. 'NO-DIG' CONSTRUCTION METHOD MUST BE USED IN THIS AREA
	PROPOSED DEVELOPMENT

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

Signed



.....

Andrew Bussey.

25th August 2017

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

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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)



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