

**ARBORICULTURAL REPORT
AND
ARBORICULTURAL IMPACT ASSESSMENT
to BS 5837:2012
at
Osbourne House
Burton Road
Barnsley
South Yorkshire
S71 2JS**

Client:
CRS Plant Ltd

Client Address:
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JCA Ref:
16008/ChC – Rev 1

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 This report is required at **Osbourne House, 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 assess the impact of the proposals on the existing tree stock and outline mitigation actions, where appropriate, to minimise potential damage to the trees which are to be retained. The report includes an assessment of the existing vegetation, along with recommendations based on the current context of the site; clearly defined from those required to facilitate the development.

1.2 Terms of Reference

- 1.2.1 JCA Ltd has been instructed by **CRS Plant Ltd** to survey the trees and prepare the findings in a report.
- 1.2.2 For this purpose a topographical survey has been supplied 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 independent and objective assessment of the existing vegetation.
- 1.3.2 Preliminary recommendations are given with a view to the long-term management of a 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 a proposed development, are included.
- 1.3.5 The specific design of the proposed development has been considered within the Arboricultural Implication Assessment in **Section 6** and is detailed on the plan at **Appendix 7**.

1.4 Survey Details

- 1.4.1 The survey took place during the month of November 2019 and was conducted by **Charles Cocking FdSc (Arboriculture), MArborA**.
- 1.4.2 During this survey, all trees were inspected from ground level. Further investigation, such as climbed inspections or decay detection surveys, have not been undertaken.
- 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 the grounds of Osbourne House which include the Grade 2 listed building and surrounding gardens.
- 2.1.2 The site is approximately level throughout. No major undulations in ground level were encountered on site, including the surrounding garden.

2.2 Treescape & Visual Amenity Value

- 2.2.1 Surrounding the site is a residential area containing occasional mature garden and street trees.
- 2.2.2 The trees to the south of the building on this site, which are protected by Tree Preservation Orders have a significant impact on the local treescape, and contribute well to the amenity value of the site.

2.3 Age Class Mix & Species Surveyed

- 2.3.1 The trees surveyed ranged in age from semi-mature to mature.
- 2.3.2 Species surveyed include Weeping Ash, Beech, Sorbus, Holly, Copper Beech, Privet and Atlas Cedar.

3. Status of the Trees

- 3.1 A check was made in November 2019 with ***Barnsley Metropolitan District Council***.
- 3.2 We are informed that **T1, T2, T3, T4, T5, T7, T8** and **T9** (as identified in this report) are all protected by a Tree Preservation Order.
- 3.3 Before any work is organised to protected trees, an application form must be submitted to the Local Authority, outlining all the proposed works along with suitable justification. A waiting period of eight weeks is then required, after which time the council will either give consent to the works, refuse the works or grant a conditional consent.

No work must be undertaken on protected trees until permission has been granted.

- 3.4 The presence of a Tree Preservation Order (TPO) represents the Local Authority's desire to retain trees within the landscape. As such, trees covered by a TPO are generally more likely to require retention within a proposed scheme and this should be taken into account during the design process. In some cases, the removal of TPO trees may be agreed upon, providing the benefits of the proposed development are deemed greater than the material loss of the trees. The value of existing vegetation is just one factor in the decision making process; all benefits of the proposed development will be taken into consideration in the usual manner.

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 Relating to the Existing Treescape

5.1 Tree Condition & Recommended Works

- 5.1.1 The tree survey revealed a total of **9** items of vegetation (**8** individual trees and **1** boundary hedge).
- 5.1.2 Of these, **1** tree was identified as retention category ‘A’, **3** trees and **1** hedge were identified as retention category ‘B’, **2** trees were identified as retention category ‘C’ and **2** trees were identified as category ‘U’.
- 5.1.3 Please refer to **Appendix 2** for retention category and definition criteria.
- 5.1.4 Within the survey, tree works have been identified for reasons of public safety, to ensure the long-term health of the trees or for general maintenance purposes. These recommendations have been made without regard to any proposed layout designs and should be undertaken irrespective of development. For full details of all recommendations, please refer to **Appendix 1**. For an explanation and timescales of the priority ratings, please refer to **Appendix 2 (A2.2.5)**.

5.2 Removals Irrespective of Development

- 5.2.1 **T1** and **T4** were identified as retention category ‘U’. These trees require removal due to the defects detailed at **Appendix 1**.
- 5.2.2 **T1** and **T4** have been recommended for removal as a matter of **low priority** at present due to their size and location on the site. Please note that **T1** and **T4** are subject to a Tree Preservation Order, and will require appropriately replacing in accordance with TPO legislation.

5.3 Remedial Tree Works

- 5.3.1 Low priority remedial tree works have been recommended to **T3** for general maintenance purposes. This takes the form a single branch removal where this overhangs the existing driveway/access road.
- 5.3.2 Trees which overhang public footpaths or public highways 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.

5.4 Monitoring / Further Investigations

- 5.4.1 **T8**, although considered an important feature within the site and local landscape, was noted to have structural or physiological defects, as detailed at **Appendix 1**. Although this tree was considered to be in an acceptable condition at the time of the inspection, and therefore retainable in its setting, the defects observed may lead to its early demise or render it unsafe in the near future. As such, it is recommended that **T8** be monitored (re-inspected and assessed) on an annual basis over the forthcoming years to assess if its condition is still acceptable, or if remedial works are considered necessary to reduce its risk/potential to cause harm.

6 Arboricultural Implications Assessment (AIA)

6.1 Proposed Development

- 6.1.1 The proposed development will consist of the refurbishment of the building, and the construction of some garages, and storage/workplace buildings. The existing driveway into the site is to be retained and utilised for access, with the alignment of the existing driveway which runs passed the house to the proposed garages is also to be retained and surfaced with permeable gravel.
- 6.1.2 New tree planting also forms part of the proposals and will go towards mitigating the loss of any trees which are to be removed on this site.
- 6.1.3 The development layout plan has been supplied by the client; this plan can be found at **Appendix 7** and is the basis for which this AIA has been prepared.
- 6.1.4 All tree works required to accommodate the proposals are included at **Appendix 1**, which lists all works recommended during the initial survey and those required for the development.

6.2 Tree Removals for Development

- 6.2.1 None of the surveyed trees will require removal to facilitate the proposed scheme. However, it should be noted that some trees have been removed on site and will require adequately replacing post development.

6.3 Pruning for Development

- 6.3.1 No pruning works are required to accommodate the proposed scheme.

6.4 Implications for Retained Trees

6.4.1 The Protective Barrier

- 6.4.1.1 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 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)**.
- 6.4.1.2 Routes for pedestrian and site traffic will be located outside, and diverted away from, the RPAs of the retained trees wherever possible. Where this is not practicable, temporary protective surfaces (ground protection) must be laid over the exposed RPAs to reduce/limit soil compaction. The ground protection must therefore distribute the weight of site vehicles, machinery or pedestrians whilst allowing moisture to reach the tree rooting area beneath. Such surfaces must be constructed in accordance with BS5837: 2012.
- 6.4.1.3 Where work is required within the RPA of **T8** for the access driveway to the garages, specialist measures and Arboricultural supervision will be required. This area is highlighted in blue on the Arboricultural Implications Plan at **Appendix 7**.

6.4.2 Access/Construction of Hard Surfacing

- 6.4.2.1 The alignment of the existing driveway is to be used where this runs passed the house to the proposed garages, and this will be finished/surfaced with a permeable gravel to avoid damage to **T8**. No excavations are to be carried out to achieve this and any works within the RPA of **T8** must be supervised by JCA at all times, and not begun until protective fencing is in place. This is to ensure that the works are carried out sympathetically and that damage to the tree is avoided.

6.4.3 Demolition

- 6.4.3.1 No demolition will commence until full protective measures (e.g. barriers and/or ground protection) are installed. This is to prevent foreseeable damage to trees, either by the demolition itself, or relating to vehicular movement over RPAs. The protective measures are to be checked by JCA, and confirmed with the LPA prior to any demolition activities.

6.4.4 Construction/ Foundation Design.

- 6.4.4.1 The footprint of the proposed garages/workspaces does not encroach into the RPA's of retained trees. As such no specialist construction or foundation methods are considered necessary for the sole purpose of preventing damage to trees.
- 6.4.4.2 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.
- 6.4.4.3 **Utilities**
- 6.4.4.4 Details on service routes have not been provided to JCA. 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.
- 6.4.4.5 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.

6.4.5 Site Compound

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

6.4.6 Landscaping

- 6.4.6.1 Proposed fence lines may be constructed within the RPA of a tree if necessary, providing that appropriate considerations are taken with regards to the well-being of the tree. As such, no continual trenching is to be undertaken within the RPA (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. Fences should also be kept as far away from the main stems of the trees as is reasonably possible.
- 6.4.6.2 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.
- 6.4.6.3 The planting of new trees should go ahead after the completion of the construction phase, and when all site machinery has left site. planting to take place in the planting season which runs from November through to March.

7. Conclusions

- 7.1 The trees surveyed were generally found to be in good condition and those to the south contribute well to the local amenity value and character of the site.
- 7.2 **T1, T2, T3, T4, T5, T7, T8 and T9** are protected by a Tree Preservation Order.
- 7.3 **Two** trees have been recommended for removal for arboricultural reasons. These are discussed in **Section 5.2.1** and are detailed at **Appendix 1**.
- 7.4 **One** tree has been recommended for pruning works for general maintenance purposes. This is summarised in **Section 5.3.1** and is detailed at **Appendix 1**.
- 7.5 **One** tree requires an annual inspection due to its condition. This is discussed in **Section 5.4.1** and is detailed at **Appendix 1**.
- 7.6 The arboricultural implications of the development have been considered and discussed in **Section 6**.
- 7.7 None of the surveyed trees require removal/pruning to facilitate the proposed scheme.
- 7.8 Any trees removed on site will require adequately replacing post development
- 7.9 All development work carried out in close proximity to trees must be executed in a manner sympathetic to their needs. Otherwise, the condition of the trees may deteriorate in the months and years following development, leading to a loss of amenity and resulting in potentially hazardous trees. Care must therefore be taken to ensure that the retained trees are suitably protected.
- 7.10 In accordance with **Section 6.1** of **BS 5837: 2012**, the next stage on this site should be the preparation of an **Arboricultural Method Statement (AMS)**, to ensure that all the retained trees survive the development process. An **AMS** details which trees are to be removed, which trees are to be retained and any other tree works which are required to facilitate development. The **AMS** will also advise on temporary protective barriers, temporary ground protection, site supervision, location of services and it will detail specialist construction techniques.
- 7.11 In accordance with **Section 6.3** of **BS 5837: 2012**, site supervision at key stages of the development is likely to be advisable.

Appendices

Tree Ref.	Age Common Name <i>Botanical Name</i>	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	Early-mature Weeping Ash <i>Fraxinus excelsior 'Pendula'</i>	6	0+	n/a n/a	58	5 0 6 1.5	A heavily decayed tree. Old stem has snapped out leaving a large cavity.	Remove. Low	POOR	POOR	LOW	MOD	<10	U
T 2	Early-mature Beech <i>Fagus sylvatica</i>	9	2	1.5 n/a	33 + 27	4.5 3 6.5 6.5	Twin-stemmed tree with fused stems. Possibly a grafted specimen.	No action required at present. n/a	FAIR	FAIR	LOW	MOD	10+	C 2
T 3	Early-mature Unknown	9	4	2 W	33 + 28	1.5 5 4.5 4.5	Possibly a <i>Sorbus</i> . Twin-stemmed at ground level with a slightly unbalanced crown. One branch overhangs the driveway. Crack on one of the stems noted.	Remove 1x branch which overhangs the adjacent driveway. Low	FAIR	FAIR	LOW	#N/A	10+	C 2
T 4	Semi-mature Holly <i>Ilex aquifolium</i>	5	1	n/a n/a	30	2 2 4 3	Single-stemmed and vertical with an unbalanced crown. Top has snapped out and is now a decaying specimen with limited future.	Remove. Low	POOR	POOR	LOW	LOW	<10	U
T 5	Mature Copper Beech <i>Fagus sylvatica 'Atropurpurea'</i>	16	3	5 n/a	77	6.5 6.5 7 7	Single-stemmed and vertical with a balanced crown. The canopy overhangs the adjacent road. A good feature with no major visible defects.	No action required at present. n/a	GOOD	GOOD	HIGH	MOD	40+	1 A 2
H 6	Semi-mature Privet <i>Ligustrum ovalifolium</i>	To 2.5	0+	n/a n/a	n/a	See Plan	An unmaintained boundary hedge which runs down the south-eastern and eastern boundary of the property. Good screening value for the property from the adjacent road.	No action required at present. n/a	GOOD	GOOD	MOD	NO DATA	20+	B 2
T 7	Mature Atlas Cedar <i>Cedrus atlantica</i>	16	1	4.5 E	69	5.5 1 7.5 6.5	Single-stemmed with a slight lean and a reasonably balanced crown. A good feature.	No action required at present. n/a	GOOD	GOOD	MOD	MOD	20+	1 B 2
T 8	Mature Copper Beech <i>Fagus sylvatica 'Atropurpurea'</i>	11	1.5	n/a n/a	56, 44, 30, 85	12.5 9.5 7 9	Multi-stemmed at 0.5m with a slightly unbalanced crown. The canopy is wide spreading and overhangs the adjacent road. A possible grafted specimen with potentially weak unions at the stem junctions. Some deadwood fungi noted on a decaying part of the stem. A good feature.	Monitor on an annual basis. <i>Arboricultural supervision required when working within the RPA for the required driveway extension. Finish surface to be permeable gravel.</i> High	GOOD	FAIR	MOD	MOD	20+	1 B 2
T 9	Mature Copper Beech <i>Fagus sylvatica 'Atropurpurea'</i>	14	1.5	2.5 n/a	70	8.5 6.5 4.5 6	Single-stemmed with a slight lean and a reasonably balanced crown. The canopy overhangs the adjacent road. A grafted specimen with some included bark noted.	No action required at present. n/a	GOOD	FAIR	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.

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 Tree Constraints 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 Tree Constraints 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 Tree Constraints 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.

A2.3.5 U (marked in red on the Tree Constraints 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 are to be removed or managed in a way which reduces their risk of failure, where they have high ecological value, such as in a woodland setting.

Appendix 3: General Guidelines

- A3.1 All tree work must 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 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 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.

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 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 5-15% 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).
Formative pruning	The pruning of a tree to remove weaknesses and irregularities which may lead to future problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown and to encourage an optimal canopy shape.
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 <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. 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), MArborA.* 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.

Andrew Bussey. Andrew started working in consultancy at JCA in 2006 having spent 12 years working as an arborist for various private companies before joining a Local Authority forestry team. He has various NPTC qualifications, is QTRA qualified and is a LANTRA Accredited Professional Tree Inspector.

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), MArborA.* 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.

Dan Kemp *FdSc (Arboriculture).* Dan joined JCA with nearly 30 years' experience in arboriculture. He worked as a London Tree Officer for 12 years and in several arboricultural and horticultural management posts, specialising particularly in tree risk assessments and tree related subsidence.

Russell Pearce *BSc (Hons) Arboriculture.* Russell joined JCA in January 2020 with 8 years' experience within the arboriculture industry and having graduated in Arboriculture from University of Lancashire in 2014. He has experience working in the public and private sector, having previously worked for Kent County Council, Medway Unitary Council and reputable consultancy firms. Russell is LANTRA certified in Professional Tree Inspection and has various NPTC qualifications. He also has experience carrying out CAVAT valuation surveys, and TEMPO assessments in relation to the statutory protection of trees.

Consulting Staff: Ecology

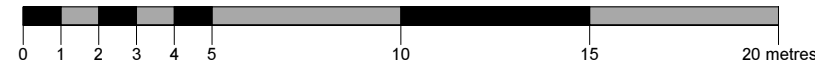
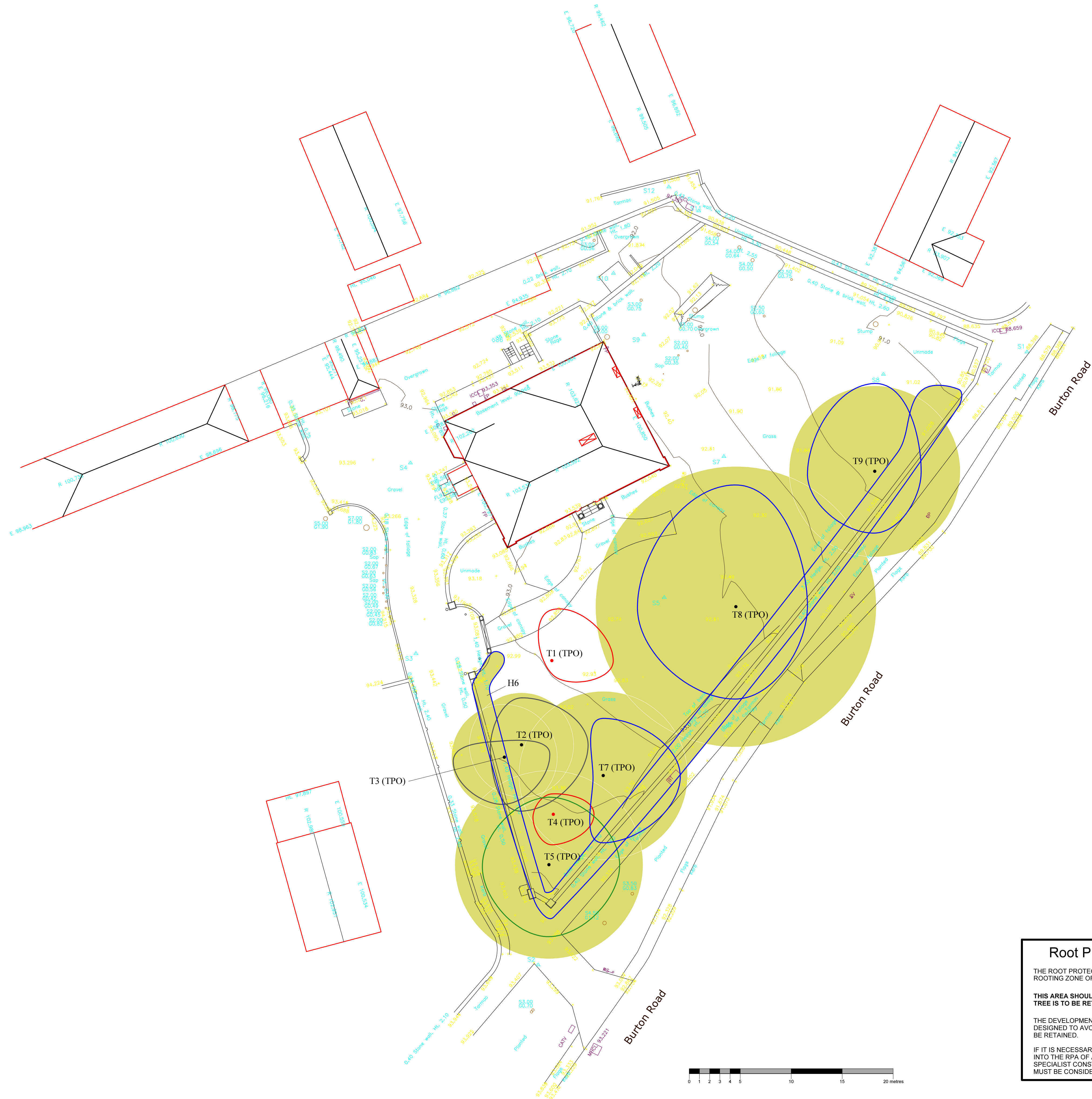
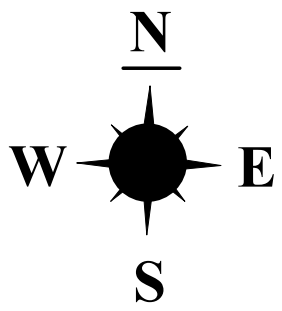
Amanda Beck, Ecological Officer *Cert/He in Field Ecology, Diploma Field and Conservation Ecology, CIEEM member.* Amanda joined JCA's ecology department in 2018, previously working as a freelance Ecological Consultant in North Wales and as a trainee Ecologist in South Wales. She has a background surveying for botanical, amphibians, birds, terrestrial and marine mammals along with small mammal trapping and invertebrate research work on SSSI sites. She has practical experience in habitat management and creation while working as a volunteer for North Wales Wildlife Trust and currently volunteers with Yorkshire Wildlife Trust. She is a member of the Butterfly Conservation Trust, Bat Conservation Trust, Clwyd Bat Group and the British Hedgehog Preservation Society. Amanda is DBS checked and holds a Natural England level 1 bat licence.

Joe Earnshaw, Graduate Ecologist *BSc (Hons), MSc Biodiversity and Conservation, Qualifying CIEEM Member.* Joe joined the ecology department of JCA in 2018 after taking part in JCA's student training programme. He initially obtained a bachelor degree in Animal Management from Askham Bryan College, York. He has since furthered his education and brings to the company an MSc in Biodiversity and Conservation from the University of Leeds. Joe has expertise in aquatic invasive species identification and control.

Administrative Staff

Sue Guest Administrative Team Leader.
Catherine Cocking Accounts Manager.
Kelly Saunders Accounts Assistant.

Simeon Haigh *BSc (Hons).* IT Director.
Lorraine Spink Administrative Assistant.
Lisa Hampson Marketing Manager.



Root Protection Area: RPA

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE.

THIS AREA SHOULD IDEALLY REMAIN UNDISTURBED IF THE TREE IS TO BE RETAINED.

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

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

**Appendix 6:
Tree Constraints Plan**

ADDRESS: Osbourne House, Osbourne Court,
Burton Road, Monk Bretton, Barnsley,
South Yorkshire, S71 2JS.
JCA Ref: 16008/ChC - Rev 1

SCALE : 1:200

PAPER SIZE : A1

SURVEYED BY: CC

DRAWN BY: CC

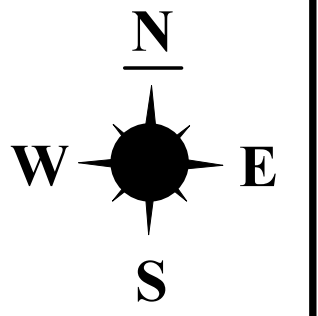
APPROVED BY: CC

BRITISH STANDARD 5837:2012: 4.5
RETENTION CATEGORIES

Detailed definitions of these categories are at Appendix 2 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.

	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

Arbicultural & Ecological Consultants



Appendix 7: Arboricultural Implications Plan

ADDRESS: Osbourne House, Burton Road,
Monk Bretton, Barnsley, S71 2JS.
JCA REF: 16008/ChC - Rev 1

SCALE : 1:200 PAPER SIZE : A1

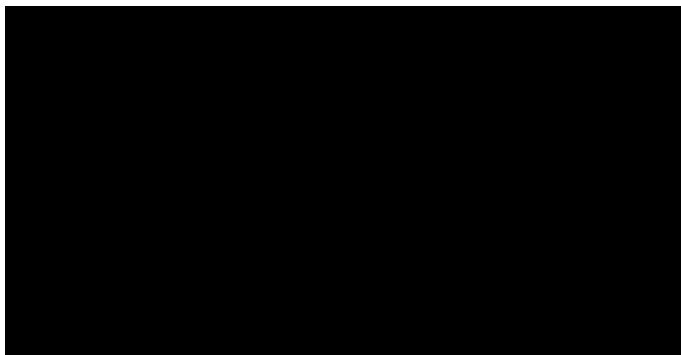
	TREE TO BE RETAINED
	TREE TO BE REMOVED
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA
	ROOT PROTECTION AREA ENCROACHED BY THE PROPOSED DEVELOPMENT
	INDICATIVE NEW TREE PLANTING



THIS PLAN IS TO BE PRINTED IN COLOUR
AND READ IN CONJUNCTION WITH THE
JCA ARBORICULTURAL REPORT
(JCA REF: 16008/ChC - Rev 1)

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



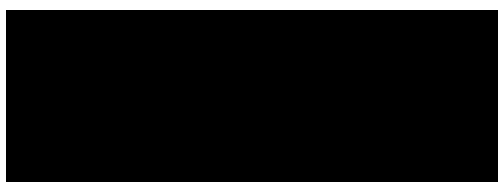
.....
Charles Cocking *FdSc (Arboriculture) MA ArborA.*

15th June 2020

For and on behalf of *JCA Ltd*

Registered Office:

**Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 0AD**



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ARBORICULTURAL SERVICES

Guidance for Architects and Developers

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

Tree Advice for the Legal Profession

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

Advice for Engineers, Loss Adjusters and Insurers

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

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Advice for Local Authorities and Social Housing

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

Tree Health and Pest and Disease Management

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

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

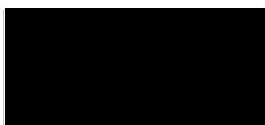
- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable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



Website: www.jcaac.com

