

**ARBORICULTURAL REPORT
to BS 5837:2012
at
Oakley House
1 Hungerford Road
Edgerton
Huddersfield
West Yorkshire
HD3 3AL**

Client:
Ramsdens Solicitors

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16105/AJB

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 This report is required at **Oakley House, 1 Hungerford Road, Edgerton, Huddersfield**, 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 Where necessary, 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 will guide the design in terms of which trees should be retained and which trees could be removed.

1.2 Terms of Reference

- 1.2.1 JCA Ltd. has been instructed by **Ramsdens Solicitors** 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. FBA_023_OAKLEY HOUSE**), 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 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 designs of the proposed development are not generally taken into account at this stage or detailed within this report. This is to be detailed in an Arboricultural Method Statement which will accompany this report (JCA Ref: **16105-A/AJB**).

1.4 Survey Details

- 1.4.1 The survey took place during the month of July 2020 and was conducted by Andrew Bussey *LANTRA Accredited PTI*.
- 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 but may be recommended where deemed appropriate.
- 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

2.1.1 The site is occupied by a large detached, two-storey property and its extensive grounds which include garden areas and a car park.

2.2 Topography

2.2.1 The site slopes gently from the southwest down towards the north-eastern boundary.

2.3 Treescape

2.3.1 Surrounding the site is a residential area containing many good quality mature garden trees.

2.3.2 The trees on this site are generally of a high quality and have a significant impact on the local treescape.

2.4 Visual Amenity Value

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

2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from young to mature.

2.6 Species Diversity

2.6.1 Species surveyed include Sycamore, Hawthorn, Elm, Holly, Horse Chestnut, Black Pine, Monkey Puzzle, Common Lime, Cypress, Cherry Laurel, Goat Willow, Cherry sp., Rhododendron, Maple sp., Plum, Robinia, Yew, Copper Beech and Whitebeam.

3. Status of the Trees

- 3.1 A check was made on 7th of August 2020 with **Kirklees Metropolitan Council**.
- 3.2 We are informed that there is a Tree Preservation Order (**TPO Ref: HU1/71/a58**) in force on this site which affords protective status to the trees detailed as **T11, G13, T14, T15, G16, T18, G19, T20, T21, G22, T23, T24, T25** and **T26** within this report.
- 3.2 Before any work is organised for **T11, G13, T14, T15, G16, T18, G19, T20, T21, G22, T23, T24, T25** and **T26** 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 to these 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.
- 3.3 We are informed that the site is within Edgerton Conservation Area.
- 3.4 Before any work is organised, a 'notice of intent' must be submitted to the Local Authority, outlining all the proposed works along with a suitable justification. A waiting period of six weeks is then required, during which time the Local Authority may or may not decide to afford the trees with further protective status. If, after the required timescale has lapsed and/or the authority does not wish to allocate a Tree Preservation Order (TPO), the works may commence as planned.
- 3.5 *No work must be done to any trees until the above process has been completed and the trees have not been allocated with a TPO.*

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 **31** items of vegetation (**23** individual trees, **7** groups of trees and **1** hedge). Of these, **3** trees were identified as retention category 'A', **12** trees/groups were identified as retention category 'B' and **16** trees/groups/ hedge were identified as retention category 'C'. Please refer to **Appendix 2** for retention category and definition criteria.
- 5.1.2 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. 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 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 **Low priority** pruning work has been recommended for **T4** and **T30** and **moderate priority** work has been recommended for **T20**, as detailed within **Appendix 1**.
- 5.3.2 Those 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 Investigation

- 5.4.1 **T1, T6, T20, T21** and **T28** were noted to have structural or physiological defects, as detailed at **Appendix 1**. Although these trees were considered to be in an acceptable condition at the time of the inspection, the defects observed may lead to their early demise or render them unsafe in the future. As such, it is recommended that these trees be monitored (re-inspected and assessed) on a biennial basis to assess if their condition is still acceptable.
- 5.4.2 In addition, to the above, all trees which are to be retained within the proposed development should be inspected on a regular basis in the interests of risk management.

- 5.4.3 Where a full detailed inspection of trees was inhibited by restricted access or by the presence of Ivy or understorey vegetation, it is advised that these trees be re-inspected for any possible defects when the Ivy or understorey vegetation has been removed or when access has been made available.

5.5 General Design Advice

- 5.5.1 The following is an overview of general design considerations relating to a 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 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.
- 5.5.6 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).
- 5.5.7 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).
- 5.5.8 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.

6. Conclusions

- 6.1 **T11, G13, T14, T15, G16, T18, G19, T20, T21, G22, T23, T24, T25** and **T26** are protected by a Tree Preservation Order and the site is within Edgerton Conservation Area.
- 6.2 **T4, T20** and **T30** have been recommended for remedial work, as summarised within **Section 5.3** and detailed at **Appendix 1**.
- 6.3 **T1, T6, T20, T21** and **T28** have been recommended for biennial monitoring due to the presence of physiological or structural defects, as summarised within **Section 5.4** and detailed at **Appendix 1**.
- 6.4 General design advice has been provided in **Section 5.5**.
- 6.5 The proposed development will be accompanied by an Arboricultural Method Statement (AMS) detailing the specific protection measures necessary for each tree. This will specify the required fencing standard and positions (the creation of the Construction Exclusion Zone), acceptable construction techniques and necessary tree works.
- 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.

Appendices

Tree Ref.	Age	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread			Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
	Common Name					Botanical Name	N	W								
T 1	Early-mature	7	4	4	30	1	1	1	Single-stemmed and vertical with a balanced crown. Previously topped at 5m with progressive decay at the topping point. A light is attached to the stem.	Monitor biennially. Low	POOR	FAIR	LOW	MOD	10+	C 1
	Sycamore			n/a												
	<i>Acer pseudoplatanus</i>															
T 2	Mature	14	3	3	80#	7.5#	7.5#	7.5#	Situated on adjacent land. Twin-stemmed at 2m with a balanced crown. Occasional pruning wounds. No major visible defects. Limited inspection due to restricted access.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 B 2
	Sycamore			n/a												
	<i>Acer pseudoplatanus</i>															
T 3	Young	6	1	1	9	2.2	2	0	Single-stemmed and leaning with an unbalanced crown. No evidence of significant pruning. No major visible defects. A tree of little significance.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 1
	Elm			E												
	<i>Ulmus sp.</i>															
T 4	Mature	18	7	7	103	10	8	8#	Single-stemmed and slightly leaning with a balanced crown. Occasional pruning wounds. No major visible defects. Dense Ivy prevented a detailed inspection.	Remove deadwood. Remove the Ivy and re-inspect for defects. Low	GOOD	GOOD	MOD	MOD	40+	1 A 2
	Sycamore			N												
	<i>Acer pseudoplatanus</i>															
T 5	Semi-mature	6	6	0	14	2.5	2.5	2	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	LOW	20+	C 1
	Holly			n/a												
	<i>Ilex aquifolium</i>															
T 6	Early-mature	13	2	2	34	0	3#	3#	Situated on adjacent land. A multi-stemmed coppice on an old stump with an unbalanced crown. No evidence of significant pruning.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	<10	C 1
	Common Lime			n/a				5#								
	<i>Tilia x europaea</i>															
T 7	Mature	15	0	5	74	5.5	6	6	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 A 2
	Horse Chestnut			NE				5.3								
	<i>Aesculus hippocastanum</i>															
G 8	Semi to early-mature	To 6	0	0	To 40#	See plan			Situated on adjacent land. A row of topped trees of reasonable form. Limited inspection due to restricted access. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	LOW	20+	1 B 2
	Holly			n/a												
	<i>Ilex aquifolium</i>															
T 9	Mature	17	7	7	50#	4.5#	4.5#	4.5#	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects. Limited inspection due to basal vegetation.	No action required. n/a	GOOD	GOOD	MOD	LOW	20+	1 C 2
	Holly			n/a												
	<i>Ilex aquifolium</i>															
T 10	Early-mature	9	3	3	27#	3#	3#	3.5#	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects. Limited inspection due to basal vegetation.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 B 2
	Monkey Puzzle			n/a												
	<i>Araucaria araucana</i>															

Tree Ref.	Age	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread			Observations	Recommendations		Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
	Common Name					W	E	S		Priority							
T 11	Mature Sycamore <i>Acer pseudoplatanus</i>	16	4	4 n/a	70#	6.5# 6.5# 6.5#			Situated on adjacent land. The crown overhangs the footpath and road. Twin-stemmed at 3m with a balanced crown. Occasional pruning wounds. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 B 2	
G 12	Young Holly <i>Ilex aquifolium</i>	To 4	0	0 n/a	To 12	See plan			A small group of trees of good form. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	LOW	40+	C 1	
G 13	Early-mature Cherry Laurel <i>Prunus laurocerasus</i>	To 8	0	0 n/a	To 28#	See plan			The crowns overhangs the footpath, road and car park. A dense group of overgrown shrubs. Limited inspection due to dense vegetation. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 1	
T 14	Semi-mature Goat Willow <i>Salix caprea</i>	6	3	3 n/a	18#	4.8 4 4 0			The crown overhangs the footpath and road. Single-stemmed and leaning with an unbalanced crown and a poor form. No evidence of significant pruning. No major visible defects. Limited inspection due to dense vegetation.	No action required. n/a	GOOD	FAIR	LOW	HIGH	10+	C 1	
T 15	Semi-mature Cherry <i>Prunus sp</i>	10	4	4 n/a	25#	4.5 5# 4# 3#			The crown overhangs the footpath and road. Single-stemmed and slightly leaning with an unbalanced crown. No evidence of significant pruning. No major visible defects. Limited inspection due to dense vegetation.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 1	
G 16	Semi-mature Mixed Species <i>Details in observations</i>	To 5	0+	0+ n/a	To 10	See plan			Cypress and Goat Willow of reasonable form.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2	
H 17	Semi-mature Holly <i>Ilex aquifolium</i>	To 1.8	0+	0+ n/a	To 5	See plan			A maintained hedge.	No action required. n/a	GOOD	GOOD	LOW	LOW	20+	C 2	
T 18	Early-mature Hawthorn <i>Crataegus monogyna</i>	7	2	2 n/a	30#	3.5 3.5 1 3.2			The crown overhangs the footpath and road. Twin-stemmed at 1m with an unbalanced crown. Occasional pruning wounds. No major visible defects. Limited inspection due to dense vegetation.	No action required. n/a	GOOD	GOOD	MOD	HIGH	20+	C 1	
G 19	Semi to early-mature Holly, Rhododendron, Maple <i>Ilex aquifolium, Rhododendron sp, Acer sp</i>	To 7	0	0 n/a	To 23	See plan			Dense group of trees of reasonable form overhanging the footpath and road. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	LOW TO MOD	20+	1 B 2	
T 20	Mature Sycamore <i>Acer pseudoplatanus</i>	15	5	5 n/a	54	5 6 3# 5#			The crown overhangs the footpath and road. Twin-stemmed at 2.5m with a slightly unbalanced crown containing moderate deadwood and die-back. Occasional pruning wounds.	Remove deadwood. Monitor biennially. Moderate	FAIR	FAIR	MOD	MOD	10+	C 1	

Tree Ref.	Age	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread		Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
	Common Name					W	E								
T 21	Mature Snake Bark Maple <i>Acer capillipes</i>	14	1.5	3 n/a	82 at base	5# 4#	6.5 6.3	Twin-stemmed at 1m with an slightly unbalanced crown. Occasional pruning wounds. Included bark present at the stem junction. Limited inspection due to basal vegetation.	Monitor biennially. Moderate	GOOD	FAIR	MOD	MOD	20+	1 B 2
G 22	Semi to early-mature Holly, Rhododendron, Plum, Robinia <i>Mixed</i>	To 12	0	0 n/a	To 30	See plan		Dense group of trees of reasonable forms overhanging the footpath and the road. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	LOW TO MOD	20+	1 B 2
T 23	Semi-mature Yew <i>Taxus baccata</i>	6.5	0	0 n/a	31	2.8 3.8	4 3.5	The crown overhangs the footpath and road. Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 B 2
T 24	Mature Copper Beech <i>Fagus sylvatica 'Atropurpurea'</i>	16	1	4 n/a	71	8# 8	7 10.5	The crown overhangs the footpath and the road. Twin-stemmed at 4.5m with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 A 2
T 25	Early-mature Copper Beech <i>Fagus sylvatica 'Atropurpurea'</i>	13	1.5	3.5 n/a	45#	4.5# 2	5# 6	The crown overhangs the footpath and the road. Twin-stemmed at 5m with an unbalanced crown. No evidence of significant pruning. No major visible defects. Limited inspection due to basal vegetation.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 B 2
T 26	Early-mature Holly <i>Ilex aquifolium</i>	5	0	0 n/a	20	2.5 3	3 2.5	The crown overhangs the footpath. 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	LOW	20+	C 1
G 27	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	To 13	0	0 n/a	To 30#	See plan		Six trees of vertical and balanced forms. Limited inspection due to basal vegetation.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 1
T 28	Early-mature Whitebeam <i>Sorbus aria</i>	12	1.5	4.5 SW	40	3.5 4.3	3.5# 3.5	Single-stemmed and vertical with a balanced crown which has been previously topped. A decay cavity is present at 2.5m on the main stem.	Monitor biennially. Moderate	GOOD	FAIR	LOW	MOD	20+	1 B 2
T 29	Early-mature Holly <i>Ilex aquifolium</i>	8	6	0 n/a	42	4 2.5	3# 3.5	Twin-stemmed at 1m with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	MOD	LOW	40+	B 1
T 30	Early-mature Sycamore <i>Acer pseudoplatanus</i>	16	4	4 n/a	49#	4.5# 4.5#	4.5# 4.5#	Growing against the adjacent roof. Twin-stemmed at 4m with a balanced crown. No evidence of significant pruning. No major visible defects. Limited inspection due to basal vegetation.	Prune back to clear the roof by 1.5m Low	GOOD	GOOD	MOD	MOD	40+	1 B 2
T 31	Semi-mature Holly <i>Ilex aquifolium</i>	6	1	1 n/a	13	0 1	1 1.5	Single-stemmed and leaning with an unbalanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	LOW	20+	C 1

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; 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 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 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.

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 5-15% 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).
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 ' <i>Trees in relation to design, demolition and construction – Recommendations</i> '.
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.

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

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.

Robert Hickey *FdSc (Arboriculture), TechArborA.* Robert joined JCA in January 2019 having obtained his foundation degree in Arboriculture at the University of Central Lancashire. He has various NPTC's qualifications and has previously worked for several Arboricultural contractors.

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.

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.

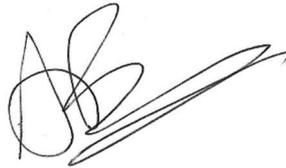
Simeon Haigh *BSc (Hons).* IT Director.

Lorraine Spink Administrative Assistant.

Lisa Hampson Marketing Manager.

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 *LANTRA Accredited PTI.*

10th August 2020

For and on behalf of *JCA Ltd*

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- 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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