



OUGHTIBRIDGE MILL

Breathing New Life into
this Former Industrial Site

Tree Survey
March 2016



**ARBORICULTURAL REPORT
to BS 5837:2012
at
Oughtibridge Mill
Main Road
Sheffield
South Yorkshire
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1. Introduction

1.1 Purpose of the Report

- 1.1.1 This report is required at **Oughtibridge Mill, Main Road, Oughtibridge**, in order to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.
- 1.1.2 The purpose of this report is to summarise the findings of an arboricultural assessment of the existing vegetation at the above site; conducted in accordance with the guidelines contained within BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.
- 1.1.3 This report will outline any tree works which are required within the current context of the site. It will also grade the trees in accordance with the British Standard; which should guide the design in terms of which trees are to be retained and which trees are to be removed.

1.2 Terms of Reference

- 1.2.1 JCA Ltd has been instructed by **CEG** 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. 10502-117_3DT**), which forms the basis for the Tree Constraints Plan at **Appendix 6**. The topographical survey, along with all other documents supplied to JCA, is assumed to be correct. No checking of such documents will be undertaken and JCA cannot be held responsible for incorrect data supplied by other parties.

1.3 Scope of the Report

- 1.3.1 This report is compiled in accordance with *BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'* and is based on an objective assessment of the existing vegetation.
- 1.3.2 Preliminary recommendations are given with a view to the long-term management of sustainable tree cover and to uphold the interests of health and safety.
- 1.3.3 All trees within the site boundary with a stem diameter above 75mm are included.
- 1.3.4 Where applicable trees outside the site boundary, but close enough to be affected by the proposed development, are included.
- 1.3.5 The specific design of any proposed development is not generally taken into account at this stage.

1.4 Survey Details

- 1.4.1 The survey took place during the month of November 2015 and was conducted by Andrew Bussey.
- 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 currently occupied by a disused paper mill located to the north-northwest of the village of Oughtibridge.

2.2 Topography

- 2.2.1 The main central areas of the site are approximately level. However; there are many undulations in ground level, especially to the northern and southern boundaries where the ground level rises sharply away from the valley of the River Don which runs through the site from a generally western to easterly direction.

2.3 Treescape and Visual Amenity Value

- 2.3.1 The site is bordered to the north by mixed broadleaf and coniferous plantations/woodlands of good quality, these plantations (**P35** and **P38** within this report), which are clearly visible from the southern side of the valley and by passing traffic on Main Road, are considered be the most important addition to the treescape of the site.
- 2.3.2 A group of trees (**G17**) which borders Main Road to the west of the site and belts of riverside trees (**G2**, **G3**, **G6**, **G34** and **G41**) which pass through site are considered to contribute well to the local treescape.

- 2.3.3 Additionally, an area of soft landscaping comprising mixed coniferous and broadleaf trees (**G40**) located to the far east of the site is also considered to be a good arboricultural asset.
- 2.3.4 It should be noted however; that whilst the groups of vegetation detailed above are given a higher value when viewed collectively, no trees of great individual note were encountered within them during the time of the survey.
- 2.3.5 The remaining trees on site are considered to be of a lower arboricultural value and generally include scattered groups of trees of poor quality and individual trees which have grown in the context of their former industrial surroundings. It is presumed that many of these lower value groups and individual trees may have started out as self-seeded specimens which have received little in the way of management in the past.
- 2.3.6 Collectively, the plantations, groups and individual trees are considered to present a significant contribution to the local treescape and public visual amenity.
- 2.3.7 An online check on the DEFRA website has revealed that **G34**, **P35**, **P38** and **G40** within this report form part of the 'Ancient and Semi-Natural Woodland' or 'Ancient Replanted Woodland' which are present on, or adjacent to this site.

2.4 Age Class Mix

- 2.4.1 The trees surveyed ranged in age from young to mature.

2.5 Species Diversity

- 2.5.1 Species surveyed include Common Ash, Goat Willow, Black Pine, Sycamore, Elm sp, Crack Willow, Common Alder, Leylandii, Cypress sp., Cherry sp., Silver Birch, Scots Pine, European Larch, Common Oak, Rowan, Common Lime, Spruce sp., Himalayan Birch and Beech.

3. Status of the Trees

- 3.1 A check was made on the 6th of January 2016 with **Sheffield City Council**.
- 3.2 We are informed that there are Tree Preservation Orders (TPO numbers **21** and **36**) which protect various trees classified in areas and woodlands in and around the site. We are also informed that the Tree Preservation Orders also cover trees bordering the land.
- 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.
- 3.4 *No work must be done to any trees until permission has been granted.*

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 **52** items of vegetation (**18** individual trees, **30** groups of trees, **2** hedges and **2** plantations). Of these, the **2** plantations were identified as retention category 'A', **3** trees and **9** groups were identified as retention category 'B', **11** trees, **19** groups and **2** hedges as retention category 'C' and **4** trees and **2** groups as category 'U'. 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 **T18, T19, T21, T24, G30** and **G46** were identified as retention category 'U' due to the presence of defects detailed in **Appendix 1**. Due to the low public land use at present, the removal of these trees is of a **low priority**.

5.3 Remedial Tree Works

- 5.3.1 **Low** or **moderate priority** remedial tree works, as detailed in **Appendix 1**, have been recommended for **G5, T11, T12, G17, T25, T27** and **G47** in order to manage foreseeable risks, to prevent the development of defects or for general maintenance purposes.
- 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.
- 5.3.3 In addition to the remedial works highlighted, all trees to be retained within the site should be re-inspected on a regular basis in the interests of risk management.

5.4 Monitoring/ Further Investigation

- 5.4.1 **G4, G5, T11, T12, T16, G17, G22, T25, T27 and T49** 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, if these trees are to be retained post-development, it is recommended that these trees be monitored (re-inspected and assessed) on an annual basis to assess if their condition is still acceptable (as advised at **Appendix 1**).
- 5.4.2 Where a full detailed inspection of trees was inhibited by restricted access or by the presence of Ivy or dense understorey vegetation, it is advised that these trees be re-inspected for any possible defects when the Ivy or dense understorey vegetation has been removed or when access has been made available.

5.5 Existing Site Constraints and General Design Advice

- 5.5.1 The following is an overview of the constraints on this site to development, along with general design considerations relating to the tree cover. The precise details of a proposed development are not known at present. The specific implications of a proposed design should be assessed within an Arboricultural Implications Assessment (AIA).
- 5.5.2 The retention categories of the trees surveyed are an indication of their overall values. The category of each item is listed at **Appendix 1** and an explanation of the retention categories is included at **Appendix 2**. As a general rule, those trees listed as retention category 'A' or 'B' should be considered to be the most valuable items on site and those items listed as retention category 'C' to be of a lesser value. 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).

- 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 Many trees on site have grown in close proximity to existing features which include buildings, walls, tanks, pipelines and areas of hard standing. In order to facilitate the demolition and extraction of these features, selected trees (whether falling into retention category A, B or C) shall require removal prior to the commencement of works as it is likely that they will become structurally unstable once the features are removed.
- 5.5.6 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.
- 5.5.7 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).
- 5.5.8 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).
- 5.5.9 The position of the site compound is a major consideration. It is recommended that this, which typically includes the site office, facilities, toilets, storage of materials and parking, is located away from trees and outside the RPA.
- 5.5.10 Many development sites contain areas of nature conservation interest. Trees can provide an important habitat for birds, bats, invertebrates and fungi and appropriate attention needs to be paid to preserving habitats throughout the development process.
- 5.5.11 Where a landscape planting scheme is proposed, consideration must be made at the planning stage as to where this is to be implemented on site. Such locations should be protected in order to prevent soil compaction and/or contamination and should therefore form part of the Construction Exclusion Zone. JCA can provide Tree Planting Schemes where required.

6. Conclusions

- 6.1 The trees surveyed were generally found to be in good or fair condition.
- 6.2 Tree Preservation Order numbers **21** and **36** are in force on this site.
- 6.3 **T18, T19, T21, T24, G30** and **G46** have been recommended for removal for arboricultural reasons, as discussed in **Section 5.2** and detailed at **Appendix 1**.
- 6.4 **G5, T11, T12, G17, T25, T27** and **G47** have been recommended for remedial works, as discussed in **Section 5.3** and detailed at **Appendix 1**.
- 6.5 **G4, G5, T11, T12, T16, G17, G22, T25, T27** and **T49** have been recommended for annual monitoring if they are to be retained post-development, as discussed in **Section 5.4** and detailed at **Appendix 1**.
- 6.6 Existing site constraints and general design advice has been provided in **Section 5.5**.
- 6.7 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 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
G 1	Semi-mature Common Ash and Goat Willow <i>Fraxinus excelsior</i> and <i>Salix caprea</i>	To 9	0+	0+ n/a	To 23	See plan	3 trees of poor overall form located on river bank. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥10	C 1
G 2	Early-mature to mature Black Pine <i>Pinus nigra</i>	To 16	0+	0+ n/a	To 60	See plan	A row of approximately 12 trees, each of vertical and reasonably balanced form. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥40	B 2
G 3	Semi-mature to mature Mixed	To 15	0	0 n/a	To 50#	See plan	Trees of reasonable form located on river bank. Common Ash, Sycamore and Goat Willow. Limited inspection due to poor terrain.	No action required. n/a	GOOD	GOOD	MOD	HIGH	≥40	B 1
G 4	Semi-mature to mature Mixed	To 17	0	0 n/a	To 60#	See plan	Sycamore, Elm sp., Crack Willow, Common Alder and Poplar sp. of poor leaning form located on river bank. Included bark on many of the multiple stemmed trees within the group. Limited inspection due to restricted access.	Monitor. Low	POOR	GOOD	MOD	HIGH	≥20	C 2
G 5	Mature Sycamore and Common Ash <i>Acer pseudoplatanus</i> and <i>Fraxinus excelsior</i>	To 18	4+	4+ n/a	To 80#	See plan	6 trees of vertical and reasonably balanced form located on what appears to be unstable ground which has had recent ground level changes. Many snapped out limbs noted as well as moderate deadwood, decay cavities, and bark wounds. Ground level changes appear to have occurred within the rooting zones of many trees within the group. Ivy prevented a detailed inspection.	Crown clean. Remove the Ivy and inspect stem for defects. Monitor annually. Low	FAIR	FAIR	MOD	MOD	≥20	C 2
G 6	Early-mature to mature Mixed	To 18	0	0 n/a	To 80#	See plan	Common Ash, Sycamore and Common Alder of reasonably well balanced and vertical form located on river bank. Ivy to stems, poor terrain, limited access and dense vegetation prevented a detailed inspection.	No action required. n/a	GOOD	GOOD	MOD	MOD	≥40	B 2
G 7	Semi to early-mature Mixed	To 13	0	0 n/a	To 45#	See plan	Common Ash, Sycamore, Goat Willow and Common Alder of reasonably well balanced and vertical form on river bank. Ivy prevented detailed inspection. Limited inspection due to poor terrain, dense vegetation and limited access.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2
G 8	Early-mature Leylandii <i>X Cupressocyparis leylandii</i>	To 17	0	0 n/a	To 35	See plan	A small row of trees of vertical form located close to the boundary, possibly an overgrown hedge.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
G 9	Semi-mature Elm sp. <i>Ulmus sp.</i>	To 0	0	0 n/a	To 22	See plan	Self-seeded trees of little significance. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1

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T 10	Mature Leylandii <i>X Cupressocyparis leylandii</i>	14	0	0 n/a	50#	2.5 2.5 2.5 2.5	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	HIGH	≥20	C 1
T 11	Mature Sycamore <i>Acer pseudoplatanus</i>	16	6.5	6 SE	74	6.8 7.8 7 8.2	Single-stemmed and vertical with a balanced crown. Multiple pruning wounds due to crown lifting. Minor deadwood. Ground level changes appear to have occurred within the rooting zone.	Crown clean. Monitor annually. Low	FAIR	GOOD	LOW	MOD	≥20	B 1
T 12	Mature Sycamore <i>Acer pseudoplatanus</i>	16	5	5 E	76	7.8 7.5 6 5	Twin-stemmed at 2.5m with a balanced crown. Occasional pruning wounds, one with decay noted. Metal objects present in stem. Cavities noted on side limbs. Minor deadwood.	Crown clean. Monitor annually. Low	GOOD	GOOD	MOD	MOD	≥40	B 1
G 13	Semi-mature Leylandii <i>X Cupressocyparis leylandii</i>	To 8	0	0 n/a	To 20	See plan	2 trees of vertical and balanced form. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
H 14	Semi-mature Leylandii <i>X Cupressocyparis leylandii</i>	To 7	0	0 n/a	To 25	See plan	A partially maintained boundary hedge with the occasional Norway Spruce noted within. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
G 15	Semi-mature Goat Willow <i>Salix caprea</i>	To 13	0	0 n/a	To 30	See plan	4 trees of low overall value. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
T 16	Mature Sycamore <i>Acer pseudoplatanus</i>	15	3.5	3.5 W	61	3 3 5.5 4	Single-stemmed and vertical with a balanced crown. Previously topped with poor form to the re-growth above the past topping point. Decay cavities at 4m.	Monitor annually. Low	POOR	FAIR	LOW	MOD	≥10	C 1
G 17	Semi-mature-Mature Mixed	To 17	0	0	To 80#	See plan	Sycamore, Common Ash and Elm sp. of reasonable form located on steep bank. Deadwood, bark wounds and decay cavities noted throughout. Limited inspection due to poor terrain.	Crown clean. Monitor annually. Low	GOOD	GOOD	MOD	HIGH	≥40	B 2
T 18	Early-mature Common Ash <i>Fraxinus excelsior</i>	16	3	4 W	35	4 0 10 4	Severely leaning tree of very poor form.	Remove. Low	POOR	GOOD	LOW	MOD	≥0	U
T 19	Early-mature Common Ash <i>Fraxinus excelsior</i>	15	4	4 n/a	To 30	3 0 12 3	Severely leaning tree of very poor form.	Remove. Low	POOR	GOOD	LOW	MOD	≥0	U
G 20	Semi to early-mature Cypress <i>Cupressus sp.</i>	To 12	0	0 n/a	To 20	See plan	4 trees of balanced form with low arboricultural value.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1

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T 21	Early-mature Common Alder <i>Alnus glutinosa</i>	14	2	2 n/a	50 + 45	3 2 3 2	Twin-stemmed at 6m with an unbalanced crown. Severe dieback and major deadwood to crown.	Remove. Low	POOR	POOR	LOW	MOD	≥0	U
G 22	Early-mature Common Alder and Sycamore <i>Alnus glutinosa</i> and <i>Acer pseudoplatanus</i>	To 15	2+	2+ n/a	To 50	See plan	Trees which are generally multiple-stemmed and of poor overall form located within area of re-graded earth which is covering their rooting zones.	Monitor annually. Low	FAIR	FAIR	LOW	MOD	≥10	C 1
G 23	Semi to early-mature Mixed	To 15	0	0 n/a	To 45#	See plan	Dense group of Sycamore, Common Ash, Elder, Cherry sp., Elm sp. and Norway Maple of poor individual form located on bank. Limited inspection due to dense vegetation and poor terrain.	No action required. n/a	FAIR	GOOD	MOD	HIGH	≥20	C 2
T 24	Early-mature Common Ash <i>Fraxinus excelsior</i>	17	5	6 S	50#	9.5 5 5 0	Twin-stemmed at 2m with an unbalanced crown and a very poor form. A severe bark wound is present in the upper crown.	Remove. Low	POOR	GOOD	LOW	MOD	≥0	U
T 25	Mature Common Ash <i>Fraxinus excelsior</i>	18	5	5 n/a	70#	6# 7# 7# 7#	Twin-stemmed at ground level with a balanced crown. No evidence of significant pruning. Possible weak union at stem junction. Moderate deadwood throughout. Ivy and poor terrain prevented a detailed inspection.	Deadwood. Remove Ivy and inspect stem for defects. Monitor annually. Moderate	FAIR	FAIR	MOD	MOD	≥10	C 1
G 26	Early-mature to mature Sycamore <i>Acer pseudoplatanus</i>	To 18	0	0 n/a	To 80#	See plan	6 trees which appear to be of reasonably good form. Ivy prevented detailed inspection.	Remove Ivy and inspect for defects. Moderate	GOOD	GOOD	LOW	MOD	≥20	C 2
T 27	Mature Common Ash <i>Fraxinus excelsior</i>	17	6	7 n/a	80#	10# 6# 9# 10#	Located in a raised planting bed within falling distance of road. Multi-stemmed at 6m with a balanced crown. Occasional pruning wounds. Broken branch stubs and moderate deadwood throughout. Limited inspection due to the surrounding vegetation comprised within G28.	Crown clean. Monitor annually. Moderate	FAIR	FAIR	MOD	MOD	≥20	B 1
G 28	Semi-mature Cypress sp. <i>Cupressus sp.</i>	To 8	0	0 n/a	To 18	See plan	Multiple ornamental trees of low arboricultural value. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
G 29	Early-mature to mature Cypress sp. and Black Pine <i>Cupressus sp.</i> and <i>Pinus nigra</i>	To 16	0	0 n/a	To 55#	See plan	The crowns overhang the access road. 5 trees of vertical and reasonably balanced form. Ivy and restricted access prevented a detailed inspection.	No action required. n/a	GOOD	GOOD	MOD	MOD	≥20	B 2
G 30	Early-mature Black Pine <i>Pinus nigra</i>	To 13	0	0 n/a	To 60#	See plan	Two trees located within G31, one has collapsed and one is in a state of collapse.	Remove. Low	POOR	POOR	LOW	MOD	≥0	U

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G 31	Early-mature to mature Black Pine <i>Pinus nigra</i>	To 15	0	0 n/a	To 60#	See plan	Three trees of vertical and reasonably balanced form. Ivy and limited access prevented a detailed inspection.	No action required. n/a	GOOD	GOOD	MOD	MOD	≥40	B 2
T 32	Early-mature Goat Willow <i>Salix caprea</i>	7	1	1 n/a	34	3.5 3 3 3.2	Twin-stemmed at 2m with a balanced crown. Occasional pruning wounds. No major visible defects. Limited inspection due to limited access.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥10	C 1
G 33	Young to early-mature Mixed	To 12	0	0 n/a	To 35#	See plan	Sycamore, Silver Birch and Common Ash of low individual value located adjacent to river and existing structures. Limited inspection due to restricted access.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥20	C 2
G 34	Young to mature (estimated) Mixed	To 18#	0	0 n/a	To 60#	See plan	Group of Sycamore, Silver Birch and Common Ash located adjacent to river bank. Limited inspection due to restricted access.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥40	B 2
P 35	Semi to early-mature Mixed	To 12#	0	0 n/a	To 40#	See plan	Silver Birch, Goat Willow, Scots Pine, European Larch, Common Oak and Rowan. A mixed plantation of coniferous and broad leaf species of good quality. A pipeline is present just beyond boundary canopy line.	No action required. n/a	GOOD	GOOD	MOD	HIGH	≥40	A 2
T 36	Semi-mature Himalayan Birch <i>Betula utilis 'Jacquemontii'</i>	8	1	1.5 n/a	15 15 15	3 3 3 3	Multi-stemmed at 1m with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	LOW	≥40	C 1
G 37	Young to early-mature Mixed	To 13#	0	0 n/a	To 40#	See plan	Two small groups of Sycamore, Silver Birch, Common Lime and Common Ash of low individual value. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥20	C 1
P 38	Semi to early-mature Mixed	To 17	0	0 n/a	To 50#	See plan	A mainly coniferous plantation containing Scots Pine, European Larch, Silver Birch and Common Oak of good quality. A pipeline is present just beyond boundary canopy line.	No action required. n/a	GOOD	GOOD	MOD	HIGH	≥40	A 2
G 39	Semi to early-mature Mixed	To 13	0	0 n/a	To 30	See plan	A small plantation of Common Oak, Silver Birch, Common Lime and Common Ash located within the site boundary. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2
G 40	Young to semi-mature Mixed	To 15	0	0 n/a	To 35#	See plan	A plantation of Pine sp., Silver Birch, Goat Willow, Common Oak, Cypress sp., Spruce sp. and European Larch of good value. Limited inspection due to dense vegetation.	No action required. n/a	GOOD	GOOD	MOD	HIGH	≥40	B 2
G 41	Young to mature Mixed	To 18	0	0 n/a	To 60#	See plan	Long rivers side group of Common Oak, Goat Willow, Cypress sp., Silver Birch, Common Alder and Sycamore located adjacent to river side. Deadwood and broken branches noted throughout. Not fully inspected due to restricted access.	No action required. n/a	GOOD	GOOD	MOD	HIGH	≥40	B 2

Tree Ref.	Age Common Name Botanical Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 42	Mature Common Oak <i>Quercus robur</i>	14	0	0 N	50#	1# 5# 2# 6.5#	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
T 43	Mature Beech <i>Fagus sylvatica</i>	15	0	0 n/a	80#	6# 7# 2 3#	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥20	C 1
T 44	Early-mature Sycamore <i>Acer pseudoplatanus</i>	13	0	0 n/a	50#	4# 5# 2# 2#	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects. Decay cavity at 1m. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥20	C 1
G 45	Semi-mature Mixed	To 11	0	0 n/a	To 20#	See plan	Self-seeded riverside Sycamore and Common Ash of low value. Limited inspection due to restricted access.	No action required. n/a	GOOD	FAIR	LOW	MOD	≥10	C 1
G 46	Semi to early-mature Mixed	To 14	0	0 n/a	To 40#	See plan	Crack Willow and Common Ash of poor form and low value. Many decayed and broken branches noted. Limited inspection due to restricted access.	Remove. Low	POOR	FAIR	LOW	HIGH	≥0	U
G 47	Semi-mature- Early-mature Mixed	To 16	0	0 n/a	To 55#	See plan	Dense area of Sycamore, Elm sp., Common Ash and Common Oak of poor individual form. Deadwood and broken limbs noted throughout. Ivy and poor terrain prevented a detailed inspection.	Crown clean. Low	POOR	GOOD	MOD	HIGH	≥20	C 2
G 48	Semi-mature Mixed	To 8	0	0 n/a	To 20#	See plan	Self-seeded Sycamore and Common Ash of low value.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥10	C 1
T 49	Early-mature Rowan <i>Sorbus aucuparia</i>	7	1	1 n/a	30	2.5 1 4 3	Single-stemmed and leaning with an unbalanced crown and poor form. Occasional pruning wounds. Limited inspection due to restricted access.	Monitor annually. Low	GOOD	POOR	MOD	MOD	≥10	C 1
H 50	Semi-mature Leylandii <i>X Cupressocyparis leylandii</i>	To 3	0	0 n/a	To 10	See plan	Maintained hedge. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
T 51	Early-mature Common Oak <i>Quercus robur</i>	11	3	3 n/a	48#	5# 3 5# 5#	The crown overhangs the footpath, road and overhead cables. Single-stemmed and vertical with an unbalanced crown. One sided due to past pruning. Limited inspection due to restricted access.	No action required. n/a	FAIR	GOOD	MOD	HIGH	≥20	C 1
T 52	Early-mature Scots Pine <i>Pinus sylvestris</i>	13	8	8# n/a	30#	2.5 2.5 2.5 2.5	The crown overhangs the footpath, road and overhead cables. Single-stemmed and vertical with a balanced crown. Multiple pruning wounds due to crown lifting. No major visible defects. Limited inspection due to restricted access.	No action required. n/a	FAIR	GOOD	MOD	MOD	≥10	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; 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.

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.

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 thin	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in clusters around the base of the stem of a tree or within the crown. This is usually as a result of bad pruning or some other stress factor, although can be a natural growth pattern for some species of tree (eg Lime species).
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk and principle branches of the tree are cut to the same height, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
RPA	Root Protection Area – Theoretical rooting area of a tree as defined in BS 5837:2012 ' <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 Coordinator

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby was promoted to Technical Coordinator and now oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Andy Bagshaw *FdSc (Arboriculture).* Andy joined JCA in 2005 having gained several years experience in tree surgery and landscaping. He is trained in aerial rescue and is JCA's principal first aid person. Andy has obtained a foundation degree in Arboriculture at the University of Central Lancashire, is QTRA qualified and is a JCA team leader who manages an office of Consulting Arboriculturists.

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 has recently 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.

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

Consulting Staff: Ecology

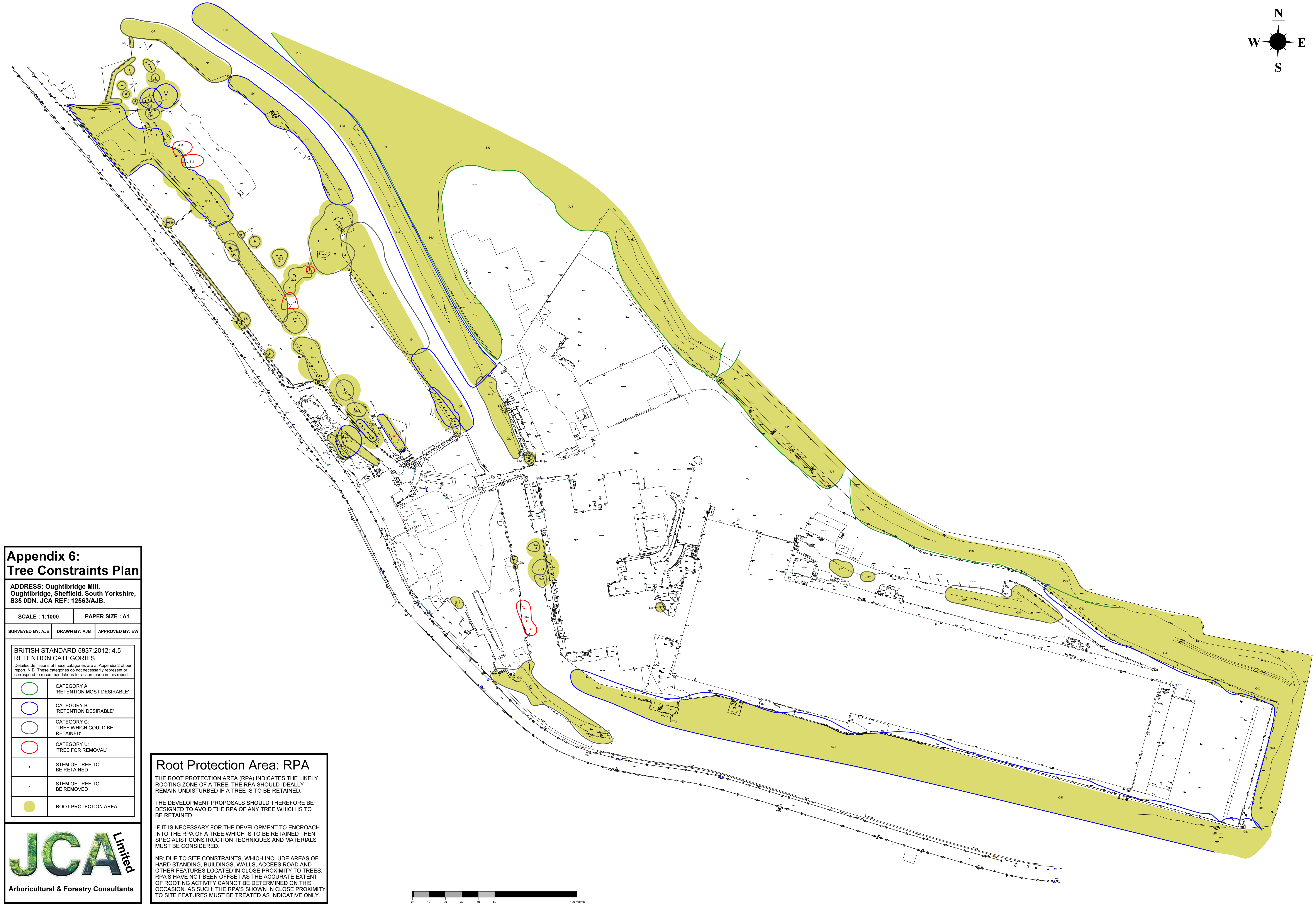
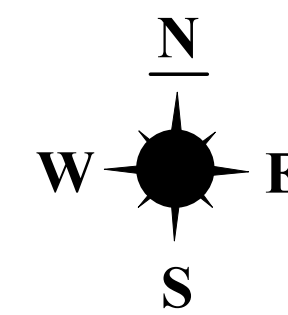
David Ryder. David has recently joined JCA as our in-house ecologist. He brings with him over 8 years experience in the field of ecological consultancy. David holds a Natural England Licence to disturb and handle bats and is currently undergoing assessment for Chartered Institute of Ecology & Environmental Management (CIEEM) membership.

Josie Collier: *BSc (Hons) Ecology.* Josie has recently joined JCA as part of our expanding ecology department. She 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).

Administrative Staff

Sue Guest Administrative Team Leader.
Simeon Haigh *BSc (Hons).* IT Officer.
Lorraine Spink Administrative Assistant.

Yasmin Shahzad Administrative Assistant.
Catherine Cocking Accounts Manager.



Appendix 6: Tree Constraints Plan

ADDRESS: Oughtibridge Mill,
Oughtibridge, Sheffield, South Yorkshire,
S35 0DN. JCA REF: 12563/AJB.

SCALE : 1:1000	PAPER SIZE : A1
SURVEYED BY: AJB	DRAWN BY: AJB
APPROVED BY: EW	

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



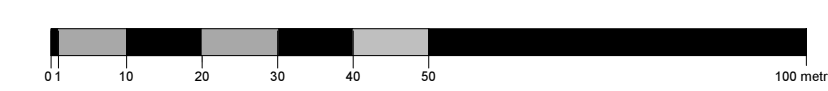
Root Protection Area: RPA

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.

NB: DUE TO SITE CONSTRAINTS, WHICH INCLUDE AREAS OF HARD STANDING, BUILDINGS, WALLS, ACCESSES ROAD AND OTHER FEATURES LOCATED IN CLOSE PROXIMITY TO TREES, RPA'S HAVE NOT BEEN OFFSET AS THE ACCURATE EXTENT OF ROOTING ACTIVITY CANNOT BE DETERMINED ON THIS OCCASION. AS SUCH, THE RPA'S SHOWN IN CLOSE PROXIMITY TO SITE FEATURES MUST BE TREATED AS INDICATIVE ONLY.



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.

7th of January 2016

For and on behalf of **JCA Ltd**

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- Garden tree and shrub maintenance plans

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- TPO re-surveys
- Trees in Historic Parks and Gardens
- Veteran trees
- Woodland Management Plans
- Ancient woodland
- Tree planting schemes

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- Personal Injury cases
- Expert witness for planning inquiries and appeals

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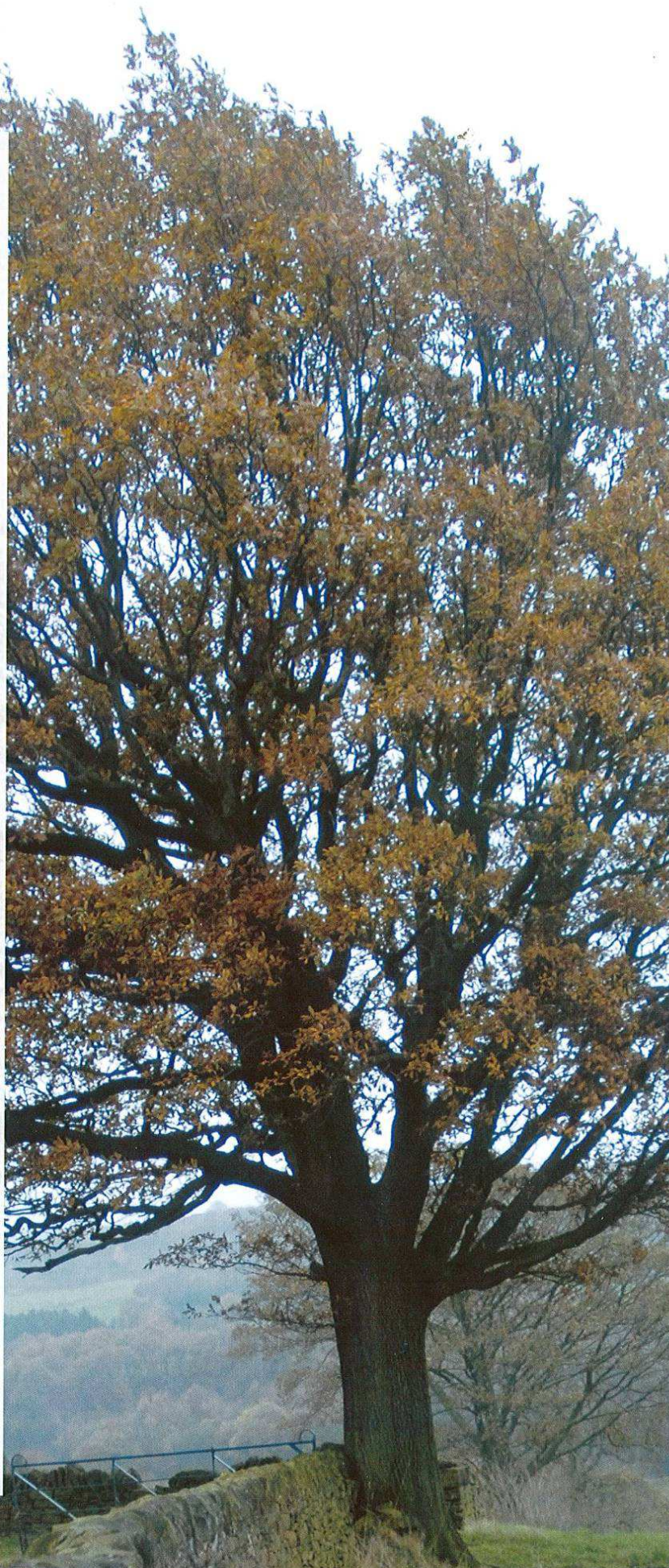
Directors:

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F. R. E. S., Tech. Cert. (Arbor A), P. Dip. Arb.
(R. F. S.), F. Arbor. A., CBiol, MIBiol

Catherine Cocking
RGN RM

Photo front cover: Sluice at Bowers Mill

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