

**ARBORICULTURAL REPORT
to BS 5837:2012
at
Washpitt Mills
Choppards Lane
Holmfirth
West Yorkshire
HD9 2RD**

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Prospect Estates

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 This report is required at **Washpit Mills, Choppards Lane, Holmfirth**, 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 **Prospect Estates** 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. 11570-141**), 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 September 2016 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 occupied by a former textile mill and its associated grounds.

2.2 Topography

2.2.1 The site, set within a valley bottom to the south of the market town of Holmfirth, has many undulations in ground level.

2.3 Treescape

2.3.1 Surrounding the site is a rural area containing trees and hedgerows which are typical of such a setting.

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

2.4 Visual Amenity Value

2.4.1 The trees on site collectively provide a reasonable 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, Common Ash, Goat Willow, Hawthorn, Rowan, Apple sp., Cherry sp., Cherry Laurel, Leylandii, Silver Birch, English Oak, Swedish Whitebeam and Japanese Maple. Of these; the predominant species was Sycamore.

3. Status of the Trees

- 3.1 An online check was made on the 20th of September 2016 on the **Kirklees Metropolitan Council** website.
- 3.2 This check revealed that there is no Tree Preservation Order (TPO) in force and that the site is not within a Conservation Area.
- 3.3 Due to the large potential penalties for illegally carrying out work to protected trees, JCA recommend that a further check is carried out prior to any works being undertaken. This is especially relevant as the Council is able to serve a TPO at any time. We are able to arrange a further check on your behalf.

4. Tree Descriptions and Recommendations

- 4.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**. A full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

5. Discussion Relating to the Existing Treescape

5.1 Tree Condition & Recommended Works

- 5.1.1 The tree survey revealed a total of **98** items of vegetation (**66** individual trees, **21** groups of trees and **1** hedge). Of these, **1** tree was identified as retention category 'A', **13** trees and **1** group were identified as retention category 'B', **55** trees, **16** groups and **1** hedge as retention category 'C' and **7** trees and **4** 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 **G18, T34, T38, T57, T58, T61, T67, G69, T78, G80** and **G94** were identified as retention category 'U'. These trees require removal because they pose a health and safety risk or are causing structural damage (or have the potential to cause damage) to adjacent features.
- **T61** is considered to be unsafe and should be removed as soon as it is reasonably practicable; its removal is of a **moderate priority**.
 - **G18, T34, T38, T57, T58, , T67, G69, T78, G80** and **G94** require removal as a matter of **low priority**.

5.3 Remedial Tree Works

- 5.3.1 **Low priority** remedial tree works have been recommended to manage foreseeable risks, to prevent the development of defects or for general maintenance purposes. This is relevant to **T17, T27, T36, T39, T41, T42, T43, G60, T68, T81** and **T87**.
- 5.3.2 Those trees which overhang the public highway shall require future maintenance in order to maintain 5.6m clearance heights above a road for vehicular traffic.

5.4 Monitoring/ Further Investigation

- 5.4.1 **T23, T32, T37, T51, G60, T81, T87, T91, T95, T97** and **T98** 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/poor terrain 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 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.
- 5.5.9 The shade that will be cast by the retained trees must also be considered. Where buildings are to be positioned within the shade cast area of trees, these should be designed in order to maximise light levels. If required, JCA can provide a shade cast prediction plan.
- 5.5.10 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. JCA can provide Ecological Surveys and Bat Surveys where required.
- 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 **G18, T34, T38, T57, T58, T61, T67, G69, T78, G80 and G94** have been recommended for removal for arboricultural reasons, as discussed in **Section 5.2** and detailed at **Appendix 1**.
- 6.3 **T17, T27, T36, T39, T41, T42, T43, G60, T68, T81 and T87** have been recommended for remedial works, as discussed in **Section 5.3** and detailed at **Appendix 1**.
- 6.4 **T23, T32, T37, T51, G60, T81, T87, T91, T95, T97 and T98** have been recommended for monitoring or further investigation, as discussed in **Section 5.4** and detailed at **Appendix 1**.
- 6.5 Existing site constraints and general design advice has been provided in **Section 5.5**.
- 6.6 In accordance with **Section 5.4** of **BS 5837: 2012**, this report will be accompanied by an **Arboricultural Impact Assessment (AIA)** (JCA Ref: **13024-A/AJB**), which will illustrate and discuss the impact of the proposals on the trees and vice versa, to help to inform good design.
- 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	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					N	W	E									S
T 1	Young Sycamore <i>Acer pseudoplatanus</i>	6	0	0 n/a	12 x 6	2.8 2.5 2.3		2	Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. Insignificant tree.	No action required. n/a	GOOD	GOOD	LOW	MOD	10+	C 2	
G 2	Semi-mature Mixed	To 7	0+	0+ n/a	To 26#			See plan	Self-seeded Sycamore and Common Ash of reasonable form. Insignificant trees.	No action required. n/a	GOOD	GOOD	LOW	MOD	10+	C 2	
G 3	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	To 9	0+	0+ n/a	To 20#			See plan	Multi-stemmed self-seeded trees of little significance. Not fully inspected due to dense vegetation and limited access.	No action required. n/a	GOOD	GOOD	LOW	MOD	10+	C 2	
G 4	Young Mixed	To 5	0+	0+ n/a	To 15#			See plan	Dense clusters of self-seeded Sycamore, Hawthorn, Rowan and Apple sp. Not fully inspected due to dense vegetation and limited access.	No action required. n/a	GOOD	GOOD	LOW	HIGH	10+	C 2	
T 5	Early-mature Common Ash <i>Fraxinus excelsior</i>	13	3	3 n/a	50#	6# 5# 6.5#		5#	5#	Overhanging the road. Single-stemmed and slightly leaning with a balanced crown. No evidence of significant pruning. Not fully inspected due to vegetation and Ivy.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	B 2
T 6	Early-mature Sycamore <i>Acer pseudoplatanus</i>	10	2	2 n/a	35#	3# 3# 3#		3#	3#	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. Not fully inspected due to vegetation and Ivy.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2
T 7	Early-mature Goat Willow <i>Salix caprea</i>	9	0	0 n/a	38#	4# 3# 5#		3#	5#	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. Not fully inspected due to vegetation and Ivy	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2
G 8	Young to semi-mature Cherry sp. <i>Prunus sp.</i>	To 6.5	0+	0+ n/a	To 25			See plan	Eight planted trees of reasonable form in a linear formation. Minor bark wounds noted.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2	
G 9	Semi-mature Mixed	To 9	0+	0+ n/a	To 20#			See plan	A dense cluster of Cherry Laurel and Leylandii of little significant. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2	
T 10	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	12	1.5	3.5 n/a	29	3 4.8 4.6		4.8	4.8	Single-stemmed and vertical with an unbalanced crown. Occasional pruning wounds due to past pruning for overhead lines. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2

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	N	E								
	Botanical Name															
T 11	Early-mature Silver Birch <i>Betula pendula</i>	13	3	3 n/a	49	3.5 4 5		3	Overhanging the road. Single-stemmed and leaning with an unbalanced crown due to past pruning for overhead lines. Large decay stubs at the base due to the removal of co-dominant stems.	No action required. n/a	GOOD	FAIR	LOW	LOW	20+	C 2
T 12	Semi-mature English Oak <i>Quercus robur</i>	13	2.5	2 n/a	36	3 4.6 4.5		0	Overhanging the road. Multi-stemmed at ground level with a balanced crown. Occasional pruning wounds due to clearance from overhead lines.	No action required. n/a	GOOD	FAIR	LOW	HIGH	20+	C 2
T 13	Mature Sycamore <i>Acer pseudoplatanus</i>	16	2	2.5 n/a	85 & 50#	8.5# 8.5# 9		7.2#	Multi-stemmed at ground level with a balanced crown. Occasional pruning wounds due to clearance from overhead lines. A long heavy limb is present to the southwest.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	20+	C 2
T 14	Early-mature Sycamore <i>Acer pseudoplatanus</i>	16	9	9 n/a	38#	4# 4# 3#		3#	Overhanging the road. Single-stemmed and vertical with a balanced crown. Multiple pruning wounds due to clearance from overhead lines. Not fully inspected due to vegetation and poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
T 15	Mature Sycamore <i>Acer pseudoplatanus</i>	17	5	6 n/a	65#	7 7.2 1		5.5#	Overhanging the road. Multi-stemmed at 3.5m with an unbalanced crown due to past pruning from overhead lines. Minor deadwood noted. Not fully inspected due to vegetation and poor terrain.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	B 2
T 16	Early-mature Sycamore <i>Acer pseudoplatanus</i>	15	7	7 n/a	37#	1# 1# 4.5#		4#	Overhanging the road. Twin-stemmed at 3m with an unbalanced crown and a poor form. Not fully inspected due to vegetation and Ivy.	No action required. n/a	GOOD	FAIR	LOW	MOD	<10	C 2
T 17	Early-mature Sycamore <i>Acer pseudoplatanus</i>	15	7	8 n/a	40#	5.5 4.5 0.5		3.5	Overhanging the footpath. Twin-stemmed at 4m with an unbalanced crown due to past pruning for overhead lines. Poor form. Minor deadwood noted.	Crown clean to remove the deadwood. Low	GOOD	FAIR	LOW	MOD	10+	C 2
G 18	Young to early-mature Mixed	To 16	2+	2+ n/a	To 29	See plan			Six Sycamore and Common Ash of upright form growing out of a waterside retaining wall and causing structural damage to this feature.	Remove and poison the stumps to prevent re-growth. Low	GOOD	FAIR	LOW	MOD	<10	U
T 19	Mature Sycamore <i>Acer pseudoplatanus</i>	17	1	4 SE	60#	4# 2# 6.5#		6.5	Twin-stemmed at 4m with an unbalanced crown. No evidence of significant pruning. No major visible defects. Overhanging an overhead line. Not fully inspected due to vegetation and Ivy.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	B 2
T 20	Early-mature Sycamore <i>Acer pseudoplatanus</i>	17	6	6 n/a	50, 45, 45 & 45#	8# 3# 5# 6#		5#	Multi-stemmed at ground level with a slightly unbalanced crown and a poor form. Not fully inspected due to vegetation, poor terrain and Ivy.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2

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 21	Early-mature	17	3	3	42 & 39#	7#	4#	4#	Twin-stemmed at ground level with a slightly unbalanced crown and a poor form. Not fully inspected due to vegetation, poor terrain and Ivy.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
T 22	Early-mature	17	9	9	45 & 45#	1	4#	2#	Twin-stemmed at ground level with an unbalanced crown and a poor form. Not fully inspected due to vegetation, poor terrain and Ivy.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
T 23	Mature	17	5	4	80#	8.5#	6.3	3#	Twin-stemmed at 1m with a balanced crown. No evidence of significant pruning. Minor dirt pocket present at the stem junction. Not fully inspected due to vegetation and Ivy.	Monitor biennially. Low	GOOD	GOOD	LOW	MOD	20+	C 2
T 24	Mature	18	8	8	65#	5#	5#	5#	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to vegetation, poor terrain and Ivy.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	B 2
T 25	Early-mature	16	4	4	42#	3#	5.8#	1	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to vegetation and poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
T 26	Early-mature	16	1	3	50, 40, 40 & 20#	7.5	7#	5#	Multi-stemmed at ground level with a balanced crown and a poor form. Not fully inspected due to vegetation and poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
T 27	Mature	16	9	9	65#	6#	6#	5#	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. Minor deadwood and decay cavities noted. No major visible defects. Not fully inspected due to vegetation and poor terrain.	Crown clean to remove the deadwood. Low	GOOD	GOOD	LOW	MOD	20+	B 2
T 28	Semi-mature	13	3	3	24	2	2	3	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. Insignificant tree. Not fully inspected due to poor terrain.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2
T 29	Early-mature	14	3	3.5	36	6	3.5	5.5	Single-stemmed and leaning with an unbalanced crown and a poor form.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	C 2
T 30	Semi-mature	11	2	2	18 & 18#	2#	2#	2#	Twin-stemmed at ground level with an unbalanced crown and a poor form. Not fully inspected due to poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	C 2

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 31	Early-mature	15	1	3.5	38	8#	4	3	Single-stemmed and leaning with an unbalanced crown and a poor form. Not fully inspected due to poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	C 2
	Sycamore			NW		2#										
	<i>Acer pseudoplatanus</i>															
T 32	Mature	15	1	2	60 & 55#	7#	7#	6#	The crown overhangs the building. Twin-stemmed at ground level with a balanced crown. No evidence of significant pruning. A weak union is present at the stem junction. Not fully inspected due to vegetation and poor terrain.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	20+	C 2
	Sycamore			n/a		5#										
	<i>Acer pseudoplatanus</i>															
T 33	Mature	17	3	3	85#	2#	8#	6#	Twin-stemmed at 0.5m with an unbalanced crown and a poor form. Not fully inspected due to vegetation and poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
	Sycamore			S		10#										
	<i>Acer pseudoplatanus</i>															
T 34	Early-mature	16	1	3	60 & 55#	8#	8.5	6	Twin-stemmed at ground level with an unbalanced crown. Significant decay to stems as well as major crown die-back. Not fully inspected due to vegetation and poor terrain.	Remove and poison the stumps to prevent re-growth. Low	FAIR	POOR	LOW	MOD	<10	U
	Sycamore			n/a		7#										
	<i>Acer pseudoplatanus</i>															
T 35	Early-mature	17	6	6	50 & 30#	3#	4#	7#	Twin-stemmed at ground level with a slightly unbalanced crown and a poor form. Not fully inspected due to vegetation and poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
	Sycamore			n/a		4#		4#								
	<i>Acer pseudoplatanus</i>															
T 36	Early-mature	16	3	3	49#	4#	6#	4#	Single-stemmed and vertical with a slightly unbalanced crown. Moderate deadwood noted. Not fully inspected due to Ivy, vegetation and poor terrain.	Crown clean to remove the deadwood. Low	GOOD	FAIR	LOW	MOD	20+	C 2
	Sycamore			W		4#										
	<i>Acer pseudoplatanus</i>															
T 37	Mature	18	9	9	68 & 49#	6#	6.5#	3#	Twin-stemmed at ground level with an unbalanced crown and a lean to the north. One sided following the collapse of an adjacent tree.	Monitor biennially. Low	GOOD	FAIR	LOW	HIGH	20+	C 2
	English Oak			n/a		5#										
	<i>Quercus robur</i>															
T 38	Mature	14	0	0	60 & 48#	See plan for stem location.			A large collapsed tree which is partially hung up in T33. Not fully inspected due to poor terrain.	Remove. Low	POOR	POOR	LOW	MOD	<10	U
	Sycamore			n/a												
	<i>Acer pseudoplatanus</i>															
T 39	Early-mature	13	2	2	50#	1.5#	6#	5#	Single-stemmed and vertical with an unbalanced crown and many broken branches following the collapse of T38. Not fully inspected due to poor terrain.	Crown clean to remove the broken branches following the removal of T38. Low	GOOD	FAIR	LOW	HIGH	20+	C 2
	English Oak			n/a		5#										
	<i>Quercus robur</i>															
T 40	Semi-mature	13	7	7	26	3	1.5	2.5	Single-stemmed and vertical with a balanced crown. A tall and slender tree with a poor form.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
	Sycamore			n/a		3										
	<i>Acer pseudoplatanus</i>															

Tree Ref.	Age	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread			Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
	Common Name Botanical Name					N	W	E								
T 41	Early-mature English Oak <i>Quercus robur</i>	13	6	6 n/a	48	4# 6# 6#			Single-stemmed and vertical with an unbalanced crown and many broken branches following the collapse of T38. Not fully inspected due to poor terrain.	Crown clean to remove the broken branches following the removal of T38. Low	GOOD	FAIR	LOW	HIGH	20+	B 2
T 42	Mature Silver Birch <i>Betula pendula</i>	15	6	6 n/a	46#	5# 4# 3#			Single-stemmed and slightly leaning with a balanced crown. No evidence of significant pruning. Moderate deadwood noted. No major visible defects. Not fully inspected due to poor terrain.	Crown clean to remove the deadwood. Low	GOOD	GOOD	LOW	LOW	40+	B 2
T 43	Mature English Oak <i>Quercus robur</i>	15	6	6 n/a	69#	7# 7# 6#			Twin-stemmed at 4.5m with a balanced crown. No evidence of significant pruning. Moderate deadwood noted. Not fully inspected due to poor terrain.	Crown clean to remove the deadwood. Low	GOOD	GOOD	LOW	HIGH	40+	B 2
G 44	Semi to early-mature Mixed	To 15	0+	0+ n/a	To 40#	See plan			Sycamore, English Oak and Silver Birch of good form located on steep bank. Not fully inspected due to poor terrain.	No action required. n/a	GOOD	GOOD	LOW	HIGH	40+	B 2
G 45	Semi-mature Mixed	To 14	0+	0+ n/a	To 29#	See plan			Self-seeded Silver Birch, Sycamore and Goat Willow of poor individual form located on an area of made-ground. Decay present on the Goat Willow in group.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2
T 46	Early-mature Common Ash <i>Fraxinus excelsior</i>	13	4	4 n/a	43 & 29#	4# 5# 7# 4#			Twin-stemmed at ground level with an unbalanced crown and a poor form. Not fully inspected due to vegetation and poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	C 2
T 47	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	12	1	1 n/a	30	0# 0 6# 6#			Single-stemmed and leaning with an unbalanced crown and a poor form. Not fully inspected due to poor terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	C 2
G 48	Semi-mature Mixed	To 13	0+	0+ n/a	To 30	See plan			Self-seeded Sycamore and Goat Willow of little significance located on a steep bank which prevented a detailed inspection.	No action required. n/a	GOOD	FAIR	LOW	HIGH	<10	C 2
T 49	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	10	0	2 E n/a	34	4.3 0 4# 4.5			Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2
T 50	Semi-mature Common Ash <i>Fraxinus excelsior</i>	11	2	2 n/a	29 & 26	5.2 0 2.5 4			Twin-stemmed at ground level with an unbalanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2

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								
	Botanical Name								Priority							
T 51	Early-mature Sycamore <i>Acer pseudoplatanus</i>	13	1	1 n/a	51, 26, 26 & 20	6.2 4.5		4.8	Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. Weak union present at the stem junction.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	20+	C 2
T 52	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	12	1	1 n/a	27	3 2		1.5	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	MOD	20+	C 2
T 53	Early-mature English Oak <i>Quercus robur</i>	11	1	1 n/a	46	6.2 3.2		2.5	Single-stemmed and vertical with a slightly unbalanced crown. No evidence of significant pruning. No major visible defects. Minor deadwood stubs noted.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	B 2
T 54	Semi-mature Swedish Whitebeam <i>Sorbus intermedia</i>	8	0	0 n/a	18 x 5	4.3 4		2	Multi-stemmed at ground level with an unbalanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2
T 55	Semi-mature English Oak <i>Quercus robur</i>	7	0	0 n/a	27	3.2 3.2		3.2	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to vegetation.	No action required. n/a	GOOD	GOOD	LOW	HIGH	40+	C 2
T 56	Semi-mature Silver Birch <i>Betula pendula</i>	12	0	0 n/a	24	2.8 2.8		2.8	Twin-stemmed at 1m with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to vegetation.	No action required. n/a	GOOD	GOOD	LOW	LOW	20+	C 2
T 57	Early-mature Goat Willow <i>Salix caprea</i>	4.5	0	1.5 n/a	38	3.8 1.2		4.5	Twin-stemmed at 1m with an unbalanced crown. Significant decay to the stem.	Remove. Low	FAIR	POOR	LOW	HIGH	<10	U
T 58	Early-mature Common Ash <i>Fraxinus excelsior</i>	13	3	4 n/a	100# at the base	5.5# 5.5#		5.5#	Multi-stemmed at ground level with a balanced crown. significant decay to the stem junctions and bark wounds to stems.	Remove. Low	GOOD	POOR	LOW	MOD	<10	U
G 59	Semi-mature Mixed	To 15	0+	0+ n/a	To 40#	See plan			Hawthorn, Sycamore, Goat Willow and Common Ash of reasonable form. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2
G 60	Early-mature Mixed	To 17	0+	0+ n/a	To 65#	See plan			Sycamore, Goat Willow and Common Ash of poor overall form located on steep bank which prevented a full and detailed inspection. Included bark noted on multiple-stemmed trees and deadwood present throughout.	Crown clean to remove the deadwood. Monitor biennially. Low	GOOD	FAIR	LOW	HIGH	20+	C 2

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 61	Early-mature Sycamore <i>Acer pseudoplatanus</i>	16	4	5 N	55#	9# 5#	5#	A severely leaning tree with a poor form and a very unbalanced crown. The stem is kinked at the base. This tree is considered to have a limited safe long term future.	Remove. Moderate	GOOD	POOR	LOW	MOD	<10	U
G 62	Early-mature Mixed	To 15	0+	0+ n/a	To 60#	See plan		Four Sycamore, English Oak and Goat Willow of reasonable form. Included bark noted on the Sycamore and bark wounds are present on the Goat Willow.	No action required. n/a	GOOD	FAIR	LOW	HIGH	20+	C 2
T 63	Semi-mature Silver Birch <i>Betula pendula</i>	9	0	0 n/a	15	2 2	2	Single-stemmed and vertical with a balanced crown. Growing in confined area between concrete hard standing. Limited long term future.	No action required. n/a	GOOD	FAIR	LOW	LOW	10+	C 2
G 64	Young to semi-mature Mixed	To 15	1.5+	1.5+ n/a	To 45#	See plan		Common Ash and Sycamore located on top of steep bank. Heavily crown lifted in the past to clear the building. Not fully inspected due to terrain.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
G 65	Young Mixed	To 6.5	0+	0+ n/a	To 12	See plan		Self-seeded clusters of Goat Willow, Silver Birch and Common Ash of little significance.	No action required. n/a	GOOD	GOOD	LOW	HIGH	10+	C 2
H 66	Young Leylandii <i>X Cupressocyparis leylandii</i>	To 3.5	0+	0+ n/a	To 7	See plan		An unmaintained hedge of little significance.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2
T 67	Young Sycamore <i>Acer pseudoplatanus</i>	6.5	0	0 n/a	15, 12, 10 & 10#	3# 1.5#	2.5	Multi-stemmed at ground level with an unbalanced crown. Growing out of a waterside retaining wall and likely to be causing structural damage to this feature.	Remove and poison the stump to prevent re-growth. Low	GOOD	FAIR	LOW	MOD	<10	U
T 68	Early-mature Sycamore <i>Acer pseudoplatanus</i>	13	1	2 n/a	48#	5.2#	5.2#	Overhanging the road. Twin-stemmed at 1.5m with a balanced crown. No evidence of significant pruning. No major visible defects. Ivy prevented a detailed inspection.	Crown lift to 5.5m over the road for vehicular clearance heights. Low	GOOD	GOOD	MOD	MOD	20+	B 2
G 69	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	To 12	0+	0+ n/a	To 28#	See plan		Multiple-stemmed trees growing out of a waterside retaining wall and likely to be causing structural damage to this feature.	Remove and poison the stumps to prevent re-growth. Low	GOOD	FAIR	LOW	MOD	<10	U
G 70	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	To 13	0+	0+ n/a	To 25#	See plan		Trees of a poor individual form located on an inaccessible steep bank which prevented a detailed inspection.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2

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	N	E								
	Botanical Name															
T 71	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	10	4	4 n/a	28 & 18	1.5 3.2 3		2	Overhanging the road. Twin-stemmed at ground level with an unbalanced crown. No evidence of significant pruning. Insignificant tree.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
T 72	Semi-mature Sycamore <i>Acer pseudoplatanus</i>	11	0	1 E	29	1.5 1.2 2.8		3.5	Overhanging the road. Twin-stemmed at 0.5m with an unbalanced crown. due to past pruning for overhead cables.	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
G 73	Early-mature Holly <i>Ilex aquifolium</i>	To 9	0+	0+ n/a	To 18#	See plan			A dense and impenetrable mass of trees which were not fully inspected.	No action required. n/a	GOOD	GOOD	LOW	LOW	40+	C 2
T 74	Semi-mature Hawthorn <i>Crataegus monogyna</i>	2.8	1	1 n/a	21	0.5 1 2		2	Single-stemmed and leaning with an unbalanced crown. No evidence of significant pruning. Of little significance.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2
T 75	Early-mature Sycamore <i>Acer pseudoplatanus</i>	13	0	0 n/a	56	5.5# 5.5# 5.5#			Multi-stemmed at 3m with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to vegetation.	No action required. n/a	GOOD	GOOD	LOW	MOD	40+	C 2
T 76	Semi-mature Goat Willow <i>Salix caprea</i>	7	0	0 n/a	30	4# 3.5 4		4	Multi-stemmed at 1m with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to vegetation.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2
T 77	Semi-mature Goat Willow <i>Salix caprea</i>	5	0	0 n/a	20 x 3	4.5# 3.8 3		4.3	Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to vegetation.	No action required. n/a	GOOD	GOOD	LOW	HIGH	20+	C 2
T 78	Early-mature Goat Willow <i>Salix caprea</i>	5	0	0 n/a	30#	7 4 0		10	A multiple-stemmed tree which is in a state of collapse.	Remove. Low	FAIR	POOR	LOW	HIGH	<10	U
T 79	Early-mature Sycamore <i>Acer pseudoplatanus</i>	14	0	0 n/a	40, 35, 20 & 20#	5.8 5# 6#		5.5#	Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. Tight unions present at the stem junction. Not fully inspected due to vegetation and epicormic growth.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	20+	C 2
G 80	Young Sycamore <i>Acer pseudoplatanus</i>	To 9	0+	0+ n/a	To 18#	See plan			4 trees of little significance growing out of the side of a dam wall and likely to be causing structural damage to this feature.	Remove and poison the stumps to prevent re-growth. Low	GOOD	FAIR	LOW	MOD	<10	U

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								
	Botanical Name						S								
T 81	Mature Goat Willow <i>Salix caprea</i>	9	1.2	1.5 n/a	75#	6.2# 6.3# 6#	6#	Multi-stemmed at 1.5m with a balanced crown. Occasional pruning wounds. Minor deadwood noted as well as minor decay at the stem junction.	Crown clean to remove the deadwood. Monitor biennially. Low	GOOD	GOOD	LOW	HIGH	40+	B 2
T 82	Semi-mature Silver Birch <i>Betula pendula</i>	13	0	0 n/a	26 & 26	4.6 2.8 3.5#	3.5	Twin-stemmed at ground level with a balanced crown and a slight lean to the east. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	LOW	20+	C 2
G 83	Semi-mature Silver Birch <i>Betula pendula</i>	To 14	0+	0+ n/a	To 20	See plan		A dense group of trees of reasonable form.	No action required. n/a	GOOD	GOOD	LOW	LOW	20+	C 2
T 84	Semi-mature English Oak <i>Quercus robur</i>	13	0	1 N	30	5 4# 3.5#	4#	Single-stemmed and slightly leaning with a balanced crown. No evidence of significant pruning. No major visible defects. Good future potential.	No action required. n/a	GOOD	GOOD	LOW	HIGH	40+	C 2
T 85	Young Goat Willow <i>Salix caprea</i>	4	0	0 n/a	14	0 0 3.5	3.6	Multi-stemmed at ground level with an unbalanced crown. No evidence of significant pruning. No major visible defects. Insignificant tree.	No action required. n/a	GOOD	FAIR	LOW	HIGH	10+	C 2
T 86	Early-mature Silver Birch <i>Betula pendula</i>	12	2	2 SE	36	0 3# 6#	4#	Single-stemmed and leaning with an unbalanced crown. No evidence of significant pruning. Not fully inspected due to vegetation.	No action required. n/a	GOOD	FAIR	LOW	LOW	20+	C 2
T 87	Mature Goat Willow <i>Salix caprea</i>	12	1	1 n/a	80#	6# 6# 6#	6#	Multi-stemmed at 1m with a balanced crown. Occasional pruning wounds. A weak union is present at the stem junction. Minor deadwood noted. Not fully inspected due to vegetation.	Crown clean to remove the deadwood. Monitor biennially. Low	GOOD	FAIR	LOW	HIGH	20+	B 2
T 88	Semi-mature English Oak <i>Quercus robur</i>	13	0	1.5 n/a	27	5 0 5# 3	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	HIGH	20+	C 2
T 89	Semi-mature Silver Birch <i>Betula pendula</i>	9	1	1 n/a	16 & 15	2.8 2 1.6	3	Twin-stemmed at ground level with an unbalanced crown. No evidence of significant pruning.	No action required. n/a	GOOD	GOOD	LOW	LOW	20+	C 2
T 90	Semi-mature Silver Birch <i>Betula pendula</i>	10	0.5	0.5 n/a	20 & 18	3.5 3.2 4.2 4.3	4.2	Twin-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 2

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	N	E								
T 91	Early-mature Goat Willow <i>Salix caprea</i>	10	0	0 n/a	45 & 40#	6# 5# 3		6# 6#	A multiple-stemmed tree growing out of the dam side. Crossing branches and minor deadwood noted. Not fully inspected due to location.	Monitor biennially. Low	GOOD	FAIR	LOW	HIGH	20+	C 2
G 92	Semi-mature Hawthorn <i>Crataegus monogyna</i>	To 3.5	0+	0+ n/a	To 15#		See plan		Trees growing out of the dam side. Not fully inspected due to location.	No action required. n/a	GOOD	FAIR	LOW	HIGH	20+	C 2
T 93	Young English Oak <i>Quercus robur</i>	4.5	0	0 n/a	9	1 1 1		1	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. Good future potential.	No action required. n/a	GOOD	GOOD	LOW	HIGH	40+	C 2
G 94	Young to semi-mature Sycamore <i>Acer pseudoplatanus</i>	To 6	0+	0+ n/a	To 18#		See plan		Self-seeded tree mass growing against a building. Not fully inspected due to location.	Remove and poison the stumps to prevent re-growth. Low	GOOD	FAIR	LOW	MOD	<10	U
T 95	Early-mature Rowan <i>Sorbus aucuparia</i>	11	0	1.5 n/a	28 & 25	4 4 4		4	Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. Many crossing branches noted as well as co-dominant stems.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	20+	C 2
T 96	Early-mature Japanese Maple <i>Acer palmatum</i>	4	1.2	0.8 SE	23	2.8 2.8 2.8		2.8	Multi-stemmed at ground level with a balanced crown. Occasional pruning wounds. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	40+	C 2
T 97	Early-mature Sycamore <i>Acer pseudoplatanus</i>	16	1	2 n/a	40 x 5	6.8 6.8 6.8		6.8	Multi-stemmed at ground level with a balanced crown. Occasional pruning wounds. No major visible defects. Minor tight unions noted at the stem junction.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	20+	B 2
T 98	Mature Common Ash <i>Fraxinus excelsior</i>	17	3	3 n/a	98	10.5# 9# 9#		10#	Situated on adjacent land yet within falling distance of the development area. Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. Moderate deadwood throughout. <i>Inonotus hispidus</i> (a decay causing fungi) fungal bracket present on an eastern limb. Not fully inspected due to off site location.	Monitor biennially. Low	GOOD	FAIR	LOW	MOD	40+	1 A 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; Dead, less than 10 years, 10+ years, 20+ years, or 40 + years. This is an indication of the minimum number of years before removal of the tree is likely to be required.

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

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

A2.3 Retention Categories

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

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

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

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

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

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

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

1 = Mainly arboricultural qualities.

2 = Mainly landscape qualities.

3 = Mainly cultural values, including conservation value.

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 reduction	The reduction of a tree's height and spread while preserving its natural shape.
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 is now Technical Coordinator and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

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

Andrew Bussey. Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

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

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

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

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

Consulting Staff: Ecology

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

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

Freya Olsson *BSc (Hons) Biology and Geography (within Natural Sciences).* Freya joined the Ecology department in July 2016 following a 6 week placement in the summer of 2015. Freya studied at Durham University gaining a degree in Biology and Geography (Joint Honours within Natural Sciences). She has extensive field and analytical experience, giving her the core skills required as an ecologist.

Administrative Staff

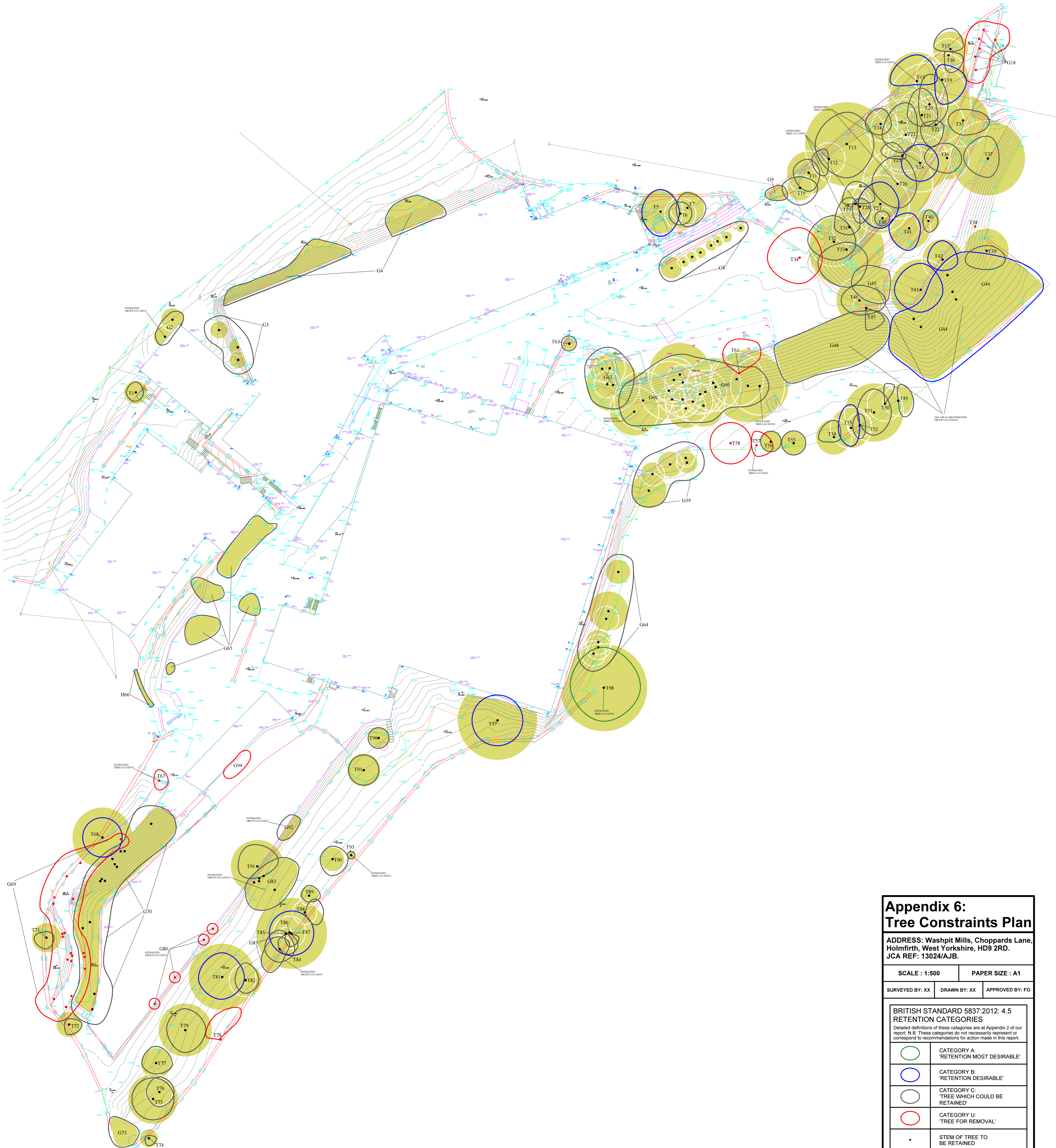
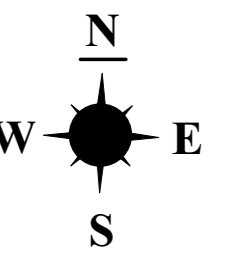
Sue Guest Administrative Team Leader.

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

Lorraine Spink Administrative Assistant.

Yasmin Shahzad Administrative Assistant.

Catherine Cocking Accounts Manager.



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 ENCOACH INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS MUST BE CONSIDERED.

PLEASE NOTE THAT ON THIS OCCASION, DUE TO THE NUMBER OF VARIABLES IN GROUND LEVEL AND IN THE AREAS OF HARD STANDING WHICH ARE DIFFICULT TO DETERMINE, ROOT PROTECTION AREAS HAVE NOT BEEN OFF-SET.

HOWEVER, WHERE APPLICABLE, RPAs HAVE BEEN BLANKED OUT IN ORDER TO TAKE INTO ACCOUNT BUILDINGS, STEEP BANKINGS AND WATER FEATURES.



**Appendix 6:
Tree Constraints Plan**

ADDRESS: Washpit Mills, Choppards Lane,
Holmfirth, West Yorkshire, HD9 2RD.
JCA REF: 13024/AJB.

SCALE : 1:500 PAPER SIZE : A1

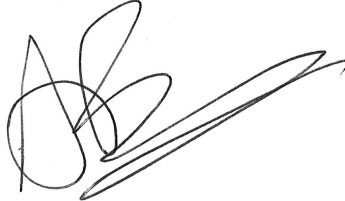
SURVEYED BY: XX DRAWN BY: XX APPROVED BY: FO

BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES	
	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



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.

20th September 2016

For and on behalf of *JCA Ltd*

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JCA Ltd. Arboricultural and Ecological Consultants

Professional Tree and Ecology Advice nationwide

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

Advice for Engineers, Loss Adjusters and Insurers

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

Advice for Local Authorities and Social Housing

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

Tree Advice for the Legal Profession

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

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

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

ECOLOGICAL SERVICES

Ecological Pre-Planning Services

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

Ecological Post-Planning Services

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

HEAD QUARTERS:

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