

**ARBORICULTURAL REPORT
to BS 5837:2012
at
Springwood House
Sheffield Road/Butterley Lane
New Mill
Huddersfield
West Yorkshire
HD9 7EX**

Client:
Northern Design Partnership

Client Address:
The Chapel
Millmoor Road
Meltham
Holmfirth
HD9 5JU

Client Contact:
Alan Davies
Tel: 01484 854848

JCA Ref:
11574/LP

JCA Limited

Arboricultural Consultants

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1. Introduction

1.1 Purpose of the Report

- 1.1.1 A report is required at **Springwood House, Sheffield Road/Butterley Lane, New Mill** to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Terms of Reference

- 1.2.1 I am instructed by **Northern Design Partnership** to visit the site and prepare my findings in a report.
- 1.2.2 For this purpose I have been supplied with a topographical survey, Drawing No. **NDP/326/SP**; this has been used to create the Tree Constraints Plan at **Appendix 6**. Please note that not all trees surveyed were plotted on Drawing No. **NDP/326/SP**, and as such their positions on the Tree Constraints Plan are approximate; these are indicated by an asterix (*TX).

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*.
- 1.3.2 Preliminary recommendations are given with a view to the long-term management of a sustainable tree cover.
- 1.3.3 Only trees in the eastern part of the property were surveyed, under instruction by the client that this is the area in which development is being considered.
- 1.3.4 The specific design of any proposed development has not been taken into account at this stage.

1.4 Survey Details

- 1.4.1 The survey took place during the month of May 2014 and was conducted by Liam Plummer (*BSc (Hons) Ecology*).
- 1.4.2 Inspection was made at ground level. Further investigation, such as climbed inspections or decay detection surveys, may be recommended where appropriate.
- 1.4.3 Measurements were obtained using clinometers, specialist tapes and electronic distometers. Due to the overgrown nature of the site, a number of height and crown spread measurements needed estimating, as distometers were unable to penetrate through the vegetation. These are indicated with a hash on **Appendix 1**.

2. Site Description

2.1 Land Use

- 2.1.1 The site is currently a garden to the east of Springwood House, and appears to have become overgrown.

2.2 Topography

- 2.2.1 The site slopes up eastwards from the driveway, before levelling out to a more gentle slope. It is situated higher than street level.

2.3 Treescape

- 2.3.1 Surrounding the site is a residential area containing occasional garden trees; as such, the trees on the site provide the majority of tree cover in the immediate area, and have a significant impact on the local treescape.

2.4 Visual Amenity Value

- 2.4.1 The trees on site collectively provide an excellent visual amenity to the surrounding area, being the predominant area of tree cover. In particular, edge trees have high amenity value.

2.5 Age Class Mix

- 2.5.1 The trees surveyed ranged in age from semi-mature to mature; generally, the age diversity on site was good.

2.6 Species Diversity

- 2.6.1 The following species were found in the survey: Copper Beech, Silver Birch, Common Ash, Norway Maple cultivar, Pedunculate Oak, Sycamore, Pear, Goat Willow, Plum species, Wild Cherry, Rowan, Cypress species, Juniper species, Buddleja, *Potentilla* species, Elm species, Lilac, Holly, Orchard Apple and Laburnum species.
- 2.6.2 The most commonly observed species was Common Ash, with a number of self-set specimens lining the site to the south (along Butterley Lane).

3. Status of the Trees

- 3.1 A check was made on 3rd April 2014 with **Kirklees Metropolitan Council**.
- 3.2 The trees to the west of the Springwood House site (not included in this survey) are protected by a Tree Preservation Order.
- 3.3 Furthermore, **T1** is protected by a Tree Preservation Order.
- 3.4 Before any work is organised on site that may affect the protected trees, all the necessary steps to get the permission of the Local Planning Authority must be taken.
- 3.5 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 to ensure other trees on site are not covered by Tree Preservation Orders. We are able to arrange this if required and to organise and supervise professional contractors.

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

5.1 Tree Condition & Recommended Works

- 5.1.1 The tree survey revealed a total of 27 items of vegetation (22 individual trees and 5 groups of trees and shrubs). Of these, 7 trees and 1 group were identified as retention category 'B', 11 trees and 4 groups were identified as retention category 'C' and 4 trees were identified as retention category 'U'. There were no retention category 'A' trees identified on this occasion. Please refer to **Appendix 2** for retention category and definition criteria.
- 5.1.2 **T8, T10, T19** and **T21** were identified as retention category 'U'. These trees require removal for arboricultural reasons regardless of any on site development, as detailed below:
- **T21** is a dead Birch, with extensive decay indicated by numerous Birch Polypore fruiting bodies present. It is within falling distance of the adjacent garden, and as such should be felled at 4m high to leave a standing dead pole as habitat; this should be carried out as a matter of **moderate priority**.
 - **T8** and **T10** have been recommended for removal due to noted defects and decay; these are poor quality trees, and as such should be removed in order to prevent them from becoming dangerous. Their removal is of a **low priority**.
 - **T19** is a semi-mature Copper Beech with historic partial root failure, resulting in a significant lean eastward. The branches show signs of the tree self-righting, but in light of its instability the tree has been recommended for removal as a matter of **low priority**.
- 5.1.3 Tree pruning works are recommended for **T5, T6, T7, T17**, one tree in **G18**, and **T26**, for reasons of public safety and to enhance the long-term health of the trees, as detailed at **Appendix 1**. The recommended work should be carried out as a matter of **low priority**.
- 5.1.4 One tree in **G11, T12** and **T20** 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) on an annual or biennial basis to assess if their condition is still acceptable, as detailed at **Appendix 1**.
- 5.1.5 A decay detection analysis (using a Resistograph or Picus) is recommended to determine the extent of the decay noted on **T23**, and to establish the extent of any tree works that may be required.

- 5.1.6 **T26** is an Apple tree of unknown origin or type. It is recommended that its type should be identified by fruit tree experts and if rare or unusual, cuttings should be taken and propagated by grafting. Clones taken could be incorporated into any post-development planting scheme if the tree is removed to facilitate the development.
- 5.1.7 Where a full detailed inspection of trees was inhibited by understorey vegetation, as detailed at **Appendix 1**, it is advised that these trees be re-inspected for any possible defects when the understorey vegetation has been managed.
- 5.1.8 Those trees which overhang the public highway, as detailed at **Appendix 1**, shall require future maintenance in order to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road.
- 5.1.9 Any development that occurs offers the chance to improve the tree stock on site by implementing a Tree Planting Scheme, which could replace poor-quality specimens (e.g. the self-set Ash along the southern boundary) with varied and interesting species to add to those better-quality trees already on site.

5.2 Potential Arboricultural Implications & General Design Advice

- 5.2.1 Precise details of any proposed development are not known at present. However, the following comments can be made about the site in terms of its tree cover in relation to a potential development.
- 5.2.2 The majority of trees recommended for retention are situated close to the site boundary, with the exception of **T27**. This offers a potential window for development within the centre of the site, with the possibility of designing public open spaces or gardens to incorporate retention category 'B' trees, depending on the nature of the proposals.
- 5.2.3 Those trees within the centre of the site are predominantly retention category 'C' and could be removed to facilitate development without a significant impact on the local treescape; their removal could be mitigated by considered tree planting to actively improve the tree cover on site in the long-term.
- 5.2.4 Trees along the southern boundary provide visual amenity and screening between the site and Butterley Lane. However, a number of these trees are of poor quality (retention category 'C'). Any development on site offers the opportunity to remove some of these poor quality trees and plant more interesting and suited species to enhance this frontage and supplement those retention category 'B' trees here.

- 5.2.5 The current site entrance is used by occupants of Springwood House; however, the presence of **T1** will impede the use of this entrance by larger vehicles required due to undertake any site works, or by increased site traffic to any new development. It would therefore be prudent to consider designing a new entrance to this site avoiding the retention category 'B' trees **T1**, **T4** and **T12**, instead entering the site around the area currently occupied by **T6**, **T7** and **T9** (retention category 'C') and **T8** (retention category 'U').
- 5.2.6 During development the part of the tree most commonly under threat, and most commonly ignored, is the rooting system. When trees are damaged, particularly the roots, their long-term health and stability can be affected. Most development activity can have an impact on the future condition and safety of a tree, and therefore careful planning and management of tree protection should ensure a continued sustainable tree cover with minimal stress to existing trees.
- 5.2.7 In order to ensure that the retained trees on site are properly protected during the development phase, the tree rooting zones are to be considered. For the purpose of development the rooting zone of the tree is known as the Root Protection Area or RPA. The RPA of each tree or group is marked on the Tree Constraints Plan at **Appendix 6** and represents the rooting zone which, where possible, should remain undisturbed. The protection of retained trees can therefore be achieved by erecting a temporary barrier (based on the RPAs), so creating a **Construction Exclusion Zone**.
- 5.2.8 Damage caused by any construction activity such as demolition, soil stripping, and provision of services needs to be considered at the design stage. Care must be taken to avoid damage to tree roots when existing structures such as tarmac surfaces are removed within an RPA.
- 5.2.9 The laying of access roads, driveways, parking areas or any other hard surfaces planned in proximity to retained trees needs to be considered. There are solutions available allowing for the construction of hard surfaces within the RPAs without causing significant damage to the trees.
- 5.2.10 Boundary walls or other light structures can be constructed without damage to roots through the use of piled foundations rather than the more traditional strip foundations.
- 5.2.11 The location of drainage and utilities within the RPA can be achieved if need be, using special techniques and supervision.
- 5.2.12 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.

- 5.2.13 Consideration must be given to movement of both vehicle and pedestrian traffic. If possible traffic should be diverted away from the RPAs. If this is not possible a range of temporary surfaces are available to distribute the weight of traffic and allow the roots to receive moisture and air.
- 5.2.14 Generally, the alteration of ground levels within the RPA is not acceptable. However, should ground levels need to be lowered in areas adjacent to trees or within the minimum distance recommended, appropriate measures must be taken to minimise the detrimental effects on the trees and their root systems. With regards to raising levels, it is necessary to maintain adequate supplies of moisture and oxygen through the soil to the tree roots. Therefore, no material must be placed within the RPA without arboricultural advice.
- 5.2.15 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.
- 5.2.16 Many development sites contain areas of nature conservation interest. Trees and hedgerows, in particular, 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.
- 5.2.17 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 and Recommendations

- 6.1 The trees surveyed were generally found to be in reasonable condition.
- 6.2 Within the area being considered for development, **T1** is protected by a Tree Preservation Order.
- 6.3 **Four** trees have been recommended for removal for arboricultural reasons. These are discussed in **Section 5.1.2** and detailed at **Appendix 1**.
- 6.4 **Six** trees require pruning works for reasons of public safety and to enhance their long term health. These are discussed in **Section 5.1.3** and detailed at **Appendix 1**.
- 6.5 **Three** trees require an annual or biennial inspection as they have structural or physiological defects. These are discussed in **Section 5.1.4** and detailed at **Appendix 1**.
- 6.6 **One** tree requires a decay detection to determine the extent of decay noted; this is discussed in **Section 5.1.5** and detailed at **Appendix 1**.
- 6.7 All development work carried out in close proximity to trees must be executed in a manner sympathetic to their needs. Otherwise, the condition of the trees may deteriorate in the months and years following development, leading to a loss of amenity and resulting in potentially hazardous trees. Care must therefore be taken at the design stage to ensure that the retained trees are suitably protected.
- 6.8 In accordance with **Section 5.4** of **BS 5837: 2012**, the next stage on this site should be the preparation of an **Arboricultural Impact Assessment (AIA)**, which will illustrate and discuss the impact of the proposals on the trees and vice versa, to help to inform good design.
- 6.9 In accordance with **Section 6.1** of **BS 5837: 2012**, and following the preparation of the **AIA**, an **Arboricultural Method Statement (AMS)** is recommended to ensure that all the retained trees survive the development process. An **AMS** details which trees are to be removed, which trees are to be retained and any other tree works which are required to facilitate development. The **AMS** will also advise on temporary protective barriers, temporary ground protection, site supervision, location of services and it will detail specialist construction techniques.
- 6.10 It is advised that in accordance with **Section 5.6** of **BS 5837: 2012** that a **Tree Planting Scheme** is prepared which will help to ensure that the site retains a sustainable tree cover. A carefully designed **Tree Planting Scheme** will incorporate tree species in harmony with the development whilst seeking to improve the overall age range and species diversity.
- 6.11 In accordance with **Section 6.3** of **BS 5837: 2012**, monthly site supervision is likely to be advisable during this development.

Appendices

Appendix 1: Tree Descriptions and Recommendations

Tree Ref.	Age Species Latin Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T 1	Mature Copper Beech <i>Fagus sylvatica</i> 'Atropurpurea'	19	3	7 N	79	7 6 6.5 5.5	Single-stemmed with a slight lean and a slightly unbalanced crown, which overhangs the boundary and road. Situated on the current driveway to the property; the tree is pushing against a retaining wall to the east. Minor basal wounds are present to the west, presumably from vehicle strikes using the driveway. One weeping lesion noted to the northwest buttress, with a possible <i>Kretzschmaria deusta</i> fruiting body beginning to form.	Monitor annually.	GOOD	GOOD	HIGH	20-40	B
T 2	Semi-mature Silver Birch <i>Betula pendula</i>	6	1	1 S	8 + 10	2.5 1.5 2 2	Bifurcate at 0.75m and slightly leaning with a slightly unbalanced crown. Minor pruning has left stubs; tree is slightly suppressed, but has no major visible defects.	No action required.	GOOD	GOOD	LOW	20-40	C
T 3	Early-mature Common Ash <i>Fraxinus excelsior</i>	#10	1	2.5 n/a	27	3 4.5 1 #4	Single-stemmed and vertical with a slightly unbalanced crown, which overhangs the boundary and road. The stem kinks notably. Pruning for utility clearance has left stubs. Minor deadwood to lower crown, and an old rope around the stem was girdling the tree (removed during inspection). Acceptable condition at present.	No action required.	GOOD	FAIR	MOD	10-20	C
T 4	Early-mature Norway Maple <i>Acer platanoides</i>	#12	2	1.6 NW	22	#3 #3 #4 #4	A purple variety, presumably 'Crimson King'. Single-stemmed and vertical with a balanced crown, which overhangs the boundary and road. No evidence of previous pruning; no major visible defects.	No action required.	GOOD	GOOD	MOD	20-40	B
T 5	Early-mature Common Ash <i>Fraxinus excelsior</i>	#16	2	1.8 SE	24 + 18	0 #6 1 #5	Bifurcate at the base and slightly leaning with an unbalanced crown, which overhangs the boundary and road. A suppressed specimen. The smaller, eastern stem has a pruning wound at 2m high with minor decay associate; there is generally minor deadwood and stubs to the lower crown, along with stubs from pruning for utility clearance.	Crown clean - low priority.	FAIR	FAIR	MOD	10-20	C
T 6	Early-mature Common Ash <i>Fraxinus excelsior</i>	#15	3	2.5 S	35	#4 #5 #4 #6	Bifurcate at 3m and slightly leaning with an unbalanced crown, which overhangs the boundary and road. A sparse crown was noted, along with stubs and minor deadwood. Of poor form.	Crown clean - low priority.	FAIR	FAIR	MOD	10-20	C

Tree Ref.	Age Species Latin Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T 7	Early-mature Common Ash <i>Fraxinus excelsior</i>	#15	0.5	2 S	19 + 7 + 12 + 24	#3 #5 #1 #6	Four-stemmed at the base, possibly resulting from previous felling and re-growth. Two smaller stems have wounds with minor decay. The main stem is growing south due to competition and slight suppression. Minor deadwood and stubs noted.	Remove the three smallest stems to single out the largest low priority .	FAIR	FAIR	MOD	10-20	C
T 8	Early-mature Common Ash <i>Fraxinus excelsior</i>	#16	2	2.5 SE	29	#6 #3 #1 0	Single-stemmed with a slight lean and an unbalanced crown, which overhangs the boundary and road. Stubs from pruning for utility clearance. Appears to have been bifurcate previously, with one stem removed at the east of the base and an epicormic growth from here. Minor decay pocket present at this point with <i>Armillaria</i> (Honey Fungus) rhizomorphs noted.	Remove - low priority .	FAIR	FAIR	MOD	<10	U
T 9	Early-mature Common Ash <i>Fraxinus excelsior</i>	#16	4	3 W	40	#5 #5 #3 #5	Bifurcate at 2.5m and slightly leaning with an unbalanced crown, which was noted to be slightly sparse. Minor and significant deadwood noted.	No action required at present.	FAIR	GOOD	MOD	10-20	C
T 10	Early-mature Common Ash <i>Fraxinus excelsior</i>	#15	5	2 SE	16 + 27	#5 #3 #3 #6	Bifurcate at the base and slightly leaning with a slightly unbalanced crown, which was noted to be sparse. Bacterial canker on the stems, with minor decay associated; the smaller eastern stem also noted to have a wound and decay pocket at 1m.	Remove - low priority .	FAIR	POOR	MOD	<10	U
G 11	Semi-mature to early-mature Mixed	#8	1.5	1.5 S	to 25	#1 #1 #4 #6	Self-set Common Ash and Pedunculate Oak, growing around a communications pole to the southeast of the site. The crowns overhang the boundary and road. The Oak has been topped at 5m, presumably for clearance from utilities; the trees are of poor form due to suppression.	Monitor topped Oak biennially.	GOOD	POOR	LOW	10-20	C
T 12	Mature Sycamore <i>Acer pseudoplatanus</i>	#18	3	2 W	27 + 32 + 36	3.5 #4 #3 4	Bifurcate at 0.5m with the northern stem bifurcating further at 1.2m. Included bark noted at unions, and stubs in the crown from pruning for utilities clearance. Minor branch losses to lower crown have left wounds with potential to decay.	Monitor annually.	GOOD	FAIR	MOD	20-40	B
G 13	Early-mature Common Ash <i>Fraxinus excelsior</i>	#14	4	2.5 NW	to #25	#5 #3 1 0	Self-set suppressed trees, with a limited inspection due to Holly at the base. Of limited arboricultural value.	No action required.	FAIR	FAIR	LOW	10-20	C

Tree Ref.	Age Species Latin Name	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	Life Expectancy (yrs)	Retention Category
						N	W	E							
T 14	Early-mature Sycamore <i>Acer pseudoplatanus</i>	#16	5	4 S	41	#3 #2 3.5			Bifurcate at 1.6m and vertical with a slightly unbalanced crown, which overhangs the boundary into the adjacent garden. Minor included bark noted at stem union, and pruning wounds present due to crown lifting. Pushing against wall, causing bulging.	No action required.	GOOD	FAIR	MOD	20-40	B
T 15	Early-mature Pear <i>Pyrus communis</i>	#10	3.5	2.5 W	19 + 13	#1.5 #1.5 1.5		0.5	Bifurcate at 0.5m and slightly leaning with a slightly unbalanced crown. A tall specimen, slightly suppressed, and with a sparse crown showing dieback and significant deadwood. Epicormic growths are forming lower on the stem. Inspection limited by Holly at the base.	No action required at present.	FAIR	FAIR	LOW	10-20	C
T 16	Early-mature Goat Willow <i>Salix caprea</i>	#12	4	1.8 NW	15 + 18	#4 #3 0.5		1	Bifurcate at 1m and slightly leaning with an unbalanced crown; significant deadwood to lower crown and slight included bark at the union. A slightly suppressed specimen.	No action required at present.	FAIR	GOOD	LOW	10-20	C
T 17	Mature Plum sp. <i>Prunus sp.</i>	10	0.5	1 n/a	31 + 18 + #25 + #30	#5 4 #3		#6	Trifurcate at the base, and open grown, with the crown overhanging the boundary. Rubbing branches and minor deadwood noted to lower crown; a snapped hanging branch present to the west of the crown. Included bark at the union of the two biggest stems.	Crown clean to remove rubbing branches and deadwood, and to give better form - low priority.	GOOD	FAIR	MOD	20-40	B
G 18	Early-mature Mixed	to 12	1	1 n/a	to #30	See plan - av. 4m			Boundary trees of Cherry, Sycamore and Rowan, providing a good screen. Limited inspection due to undergrowth; the southern Cherry is slightly suppressed and has deadwood in the crown.	Crown clean southern Cherry - low priority.	FAIR	GOOD	MOD	20-40	B
T 19	Semi-mature Copper Beech <i>Fagus sylvatica 'Atropurpurea'</i>	8	1	1 W	16	#3 1 3.5		#6	Single-stemmed tree, with historic root failure causing a lean to the east. Branches beginning to grow upright, indicating self-righting. Poses no safety risk at present, and may self-right, but has a limited long-term future.	Remove - low priority.	GOOD	POOR	MOD	<10	U
T 20	Early-mature to mature Sycamore <i>Acer pseudoplatanus</i>	12	4	3 NW	7 x av. #20	#5 4 3		5	Multiple-stemmed at the base (possibly coppiced, or felled and has re-grown); the crown overhangs the boundary. Stems show wounds and minor decay to the west, possibly resulting from squirrel damage. Included bark at unions, and more recently removed stems to the west with epicormic growths. Limited inspection, due to epicormic growths and proximity to the boundary wall.	Monitor annually.	GOOD	FAIR	MOD	10-20	C

Tree Ref.	Age Species Latin Name	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physiological Condition	Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T 21	Early-mature Silver Birch <i>Betula pendula</i>	12	n/a	2.5 n/a	30	#2 #1 #3 #1	Dead standing tree, with debris from branch losses on the ground. Significant number of Birch Polypore (<i>Piptoporus betulinus</i>) brackets present on the stem.	Reduce to 4m standing dead stem - moderate priority.	DEAD	DEAD	DEAD	DEAD	U
G 22	Semi-mature Common Ash <i>Fraxinus excelsior</i>	#9	1	1 n/a	to 20 x 2	See plan - av. 3m	Three self-set trees, with minor deadwood to lower crown. Inspection was limited by the undergrowth. Of limited arboricultural value.	No action required.	GOOD	GOOD	LOW	20-40	C
T 23	Mature Common Ash <i>Fraxinus excelsior</i>	15	0.5	2 N	#65	#6 6.5 #5 #7	Bifurcate at 3m and vertical with a balanced crown, which overhangs the boundary into the adjacent garden. Wound from the base to 2m to the southwest of the stem; decay noted, but good formation of wound wood. Stubs from pruning to lower crown, along with minor deadwood; horizontal branch to the north at 2m historically cut 1m from the stem, with vertical regrowth. Limited inspection to the northeast, due to the proximity of the boundary wall.	Decay detection at 0.2m, 1m and 2m height - low priority.	FAIR	FAIR	HIGH	20-40	B
T 24	Semi-mature to early-mature Goat Willow <i>Salix caprea</i>	9	0.5	0.8 S	#12 x 3	#3 2 2 3	Self-set specimen, multiple-stemmed at the base with the crown overhanging the boundary. Included bark at unions but otherwise no major visible defects. Of limited arboricultural value.	No action required.	GOOD	FAIR	LOW	10-20	C
G 25	Semi-mature Mixed	to 8	0	0 n/a	to #20	See plan	Area of ornamental planting now unmanaged, with self-set specimens. Species and genera noted include Cypress, Juniper, Ash, Buddleja, <i>Potentilla</i> , Elm, Lilac, Cherry and Holly. Some dead stems observed.	No action required.	GOOD	FAIR	LOW	10-20	C
T 26	Early-mature Orchard Apple <i>Malus domestica</i>	6	0.5	1.5 W	#35	2 4 0 2.5	Situated within G25, and densely covered by Honeysuckle and other climbers to the east, which is suppressing the tree and causing it to grow a one-sided crown. Minor deadwood to lower crown and one significant dead limb noted. Limited inspection to the east due to undergrowth and climbers.	Remove climbing vegetation on tree; remedially prune to remove rubbing branches and deadwood; identify apple type and if rare or unusual, take cuttings and propagate. Low priority.	FAIR	FAIR	LOW	10-20	C
T 27	Early-mature Laburnum sp. <i>Laburnum sp.</i>	5	2	0.5 W	#30 + #15	2 3 #1 3	Bifurcate at 1m and vertical with a balanced crown. Minor deadwood and stubs to lower crown, and epicormic growths at the base. Compression fork noted at stem unions, and limited inspection due to undergrowth.	No action required.	GOOD	GOOD	MOD	20-40	B

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements

- A2.1.1 *HEIGHT* of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.
- A2.1.2 *CROWN HEIGHT* is an indication of the average height at which the crown begins. Also recorded is the height of the first significant branch and the direction of growth.
- A2.1.3 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed below a height of 1.5 metres, the diameter is measured at the narrowest point below the fork.
- A2.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

A2.2 Evaluations

- A2.2.1 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.
- A2.2.2 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.
- A2.2.3 *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.
- A2.2.4 *LIFE EXPECTANCY* is classed as; less than 10 years, 10-20 years, 20-40 years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

A2.3 Retention Categories

A2.3.1 A (marked green on the plan) = trees of high quality; retention most desirable.

These trees are of high quality and value with a good life expectancy. They may be further sub-divided as follows:

- A1) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues.
- A2) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures.
- A3) Those having significant conservation or historical value e.g. veteran trees.

A2.3.2 B (marked in blue on the plan) = trees of moderate quality; retention desirable.

These trees are of moderate quality and value with a significant life expectancy. They may be further sub-divided as follows:

- B1) Trees that might be included in the high category but because of their numbers or slightly impaired condition, are downgraded in favour of the better individuals.
- B2) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals.
- B3) Trees with clearly identifiable conservation or other cultural benefits.

A2.3.3 C (marked in grey on the plan) = trees of low quality but which could be retained.

These trees are of low quality and value, and are in adequate condition to remain until new planting could be established. They may be further sub-divided as follows:

- C1) Trees not qualifying in higher categories.
- C2) Groups of trees which do not form a distinct landscape feature.
- C3) Trees with very limited conservation or other cultural benefits.

A2.3.4 U (marked in red on the plan) = unsuitable for retention: trees for removal.

These trees are in such a condition that any existing value would be lost within 10 years. This may be due to any of the following:

- 1) Failure is likely due to serious, irredeemable, structural defects.
- 2) The trees are considered to be hazardous.
- 3) Diseases are present which may affect the health of adjacent trees.
- 4) They are in serious, overall decline or are already dead.
- 5) They are of low quality and suppressing adjacent trees of better quality.
- 6) Removal of other category U trees will render them exposed and unstable.

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 work must be to BS 3998: 2010 - '*Recommendations for tree work*'.
- A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.
- A3.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.
- A3.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.
- A3.5 No liability can be accepted by JCA Limited in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.
- A3.6 It is advisable to have trees inspected by an arboricultural consultant regularly. In this instance it is recommended that these inspections are made every year.

Appendix 4: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria.
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 reduce	The reduction of a tree's height or spread while preserving its natural shape.
Crown thin	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in uncharacteristic clusters around the base or the stem of a tree, usually as a result of bad pruning or some other stress factor.
Formative pruning	The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown.
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 of the tree is cut at about 4m, 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 – The theoretical rooting area of a tree as defined in BS5837: 2012 <i>Trees in relation to construction</i> .
Topping	Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping causes serious health problems to a tree.

Appendix 5: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical 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.

Flora Harding *BSc (Hons) Fd.BSc. (Arboriculture and Tree Care).* Flora has a degree in Rural Resource Development (specialising in Wildlife and Landscape Conservation). She spent her former career working for a local authority and has a licence for QTRA. In 2012, Flora published an article to enable industry based research for the purpose of gaining Chartered Arboriculturist status.

Michelle Ryan *BSc (Hons) Arboriculture.* Michelle has recently joined JCA having previously worked for a Local Authority. She obtained a degree in Arboriculture at the University of Central Lancashire and has various NPTC qualifications. Michelle is seeking to become LANTRA certified in Professional Tree Inspection.

Liam Plummer *BSc (Hons) Ecology.* Liam graduated from Bangor University in Ecology. He has recently joined JCA having worked for the Forestry Commission Scotland and previously in the Arboriculture and Conservation sectors. Liam has various NPTC qualifications and has completed several National Diploma (Arboriculture) units.

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.

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.

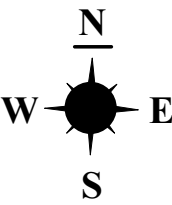
Appendix 6: Tree Constraints Plan

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.



Area not surveyed - outside of proposed development area

Appendix 6:
Tree Constraints Plan

ADDRESS: Springwood House, Sheffield Road/Butterley Lane, New Mill, HD9 7EX
JCA REF: 11574/LP

SCALE : 1:200	PAPER SIZE : A2	
SURVEYED BY: LP	DRAWN BY: LP	APPROVED BY: FH

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 (PRIOR TO OFF-SETTING)
	*TX TREES NOT PLOTTED ON TOPOGRAPHICAL SURVEY - INDICATIVE POSITION

JCA Limited
Arboricultural & Forestry Consultants

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



.....
Liam Plummer (BSc (Hons) Ecology)

7th May 2014

For and on behalf of **JCA Ltd**

Registered Office:

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

**Tel. 01422 376335
Fax. 01422 376232
Email: jon@jcaac.com**

www.jcaac.com

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- Garden tree and shrub maintenance plans

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- Tree Inventories and Risk Assessments
- 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

Registered Office:

Unit 80 Bowers Mill Branch Road Barkisland Halifax HX4 0AD
Tel: 01422 376335 Fax: 01422 376232 Mobile: 07778 391986
Email: jon@jcaac.com Website: www.jcaac.com
Company Reg No. 05005041 VAT No. 686 4674 78

Directors:

Jonathan Cocking
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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