TREE CONSULTANTS

ARBORICULTURAL REPORT

& Impact Assessment

to **BS5837:2012** at:

Land at

Birk Avenue,
Barnsley,
South Yorkshire
S70 3AH

Prepared for:
C3 Architectural Planning & Design
22 Wood Street,
Doncaster,
South Yorkshire
DN1 3LW

Date: *May 2020*

Reference: *AWA3174*

Institute of Chartered Foresters
Registered Consultant

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1. Introduction

1.1 Instructions and Brief

1.1.1 We have been instructed by C3 Architectural Planning & Design to visit the site and prepare our findings in a report.

1.1.2 The report is required in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations,* to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Survey Details

1.2.1 The survey took place during May 2020.

1.2.2 The trees were surveyed visually from the ground using "Visual Tree Assessment" techniques and in accordance with the guiding principles of British Standard 5837:2012.

1.2.3 Any additional off-site trees that could impact a new development design have been included in the tree survey parameters.

1.2.4 The tree positions were plotted on an Ordnance Survey map base-layer using enhanced GPS technology (1-2m accuracy) and laser distance measurer.

1.2.5 This report has been prepared by Mr Adam Winson, Chartered Arboriculturist, MSc, BSc (Hons), MICFor, MArborA, Principle and Director of AWA Tree Consultants Ltd.

1.2.6 The tree survey data collection was carried out by Mr Patrick Rowntree, Cert Arb L3, TechArborA, PTI (Lantra), Arboriculturist at AWA Tree Consultants Ltd.

1.2.7 Full qualifications and experience are included within **Appendix 1**. Explanatory details regarding the survey methodology are included within **Appendix 2**. A full explanation of the tree data can be found at **Appendix 3**. Full details of all the trees surveyed are found in **Appendix 4**. For tree locations refer to the Tree Constraints Plan at **Appendix 5** and for detail of the impacts of the new development refer to the Tree Impacts Plan at **Appendix 6**.

2. The Site

2.1 Location and Description

2.1.1 The site is located in the Kendray area of Barnsley, approximately 2.5 miles southeast of the town centre.

2.1.2 The site comprises a disused, open area overgrown with dense weeds and bramble. To the south of the site are two retail units, and residential properties are located to the north, east and west.

2.1.3 The approximate area of the survey is highlighted in the image below (Google Earth, 2019):



3. The Trees

3.1 Legal

3.1.1 An online search has been carried out with Barnsley Metropolitan Borough Council on 13/05/20 to ascertain whether any trees at the site are located within a Conservation area or are protected by a Tree Preservation Order (TPO). As of this date no trees within the site are legally protected.

3.1.2 Due to the large potential penalties for illegally carrying out work to protected trees, before authorising any tree works a further check should be made with the Local Planning Authority to confirm if any trees are covered by a Tree Preservation Order or are within a Conservation Area. If either applies, then statutory permission is required before any works can take place. Statutory permission is not required for the removal of deadwood.

3.1.3 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance.

3.1.4 All tree work should be carried out according to British Standard 3998:2010 Tree Work - Recommendations.

3.2 Tree Survey Results

3.2.1 The tree survey revealed 6 items of woody vegetation, comprised of 6 individual trees.

3.2.2 Of the surveyed trees: all 6 trees are retention category 'C' (explanatory details regarding the retention categories are included at Appendix 3).

3.2.3 The significant tree cover within the site consists of individual amenity plantings situated in adjacent properties, mostly along the eastern site boundary.

3.2.4 The central areas of the site contain little of arboricultural significance, generally consisting of dense weeds and bramble.

3.2.5 All of the sites' trees were small, semi-mature trees of limited value.

3.2.6 The sites most significant tree is T4, a semi-mature Norway Maple, situated to the north-west of the area surveyed, in adjacent land to the west. This is slightly larger and better established than the other trees on site. It is in reasonable overall condition, but only has limited amenity value.

3.2.7 Willow T1 is located to the south-west of the site, in adjacent land. Though taller and more visually prominent than many other of the site's trees, this tree was in poor physiological condition, with high proportions of deadwood and dieback throughout the crown. It has limited long-term prospects.

3.2.8 The remaining trees within the site are of particularly low value and should not pose any significant constraint on the development potential of the site.

3.2.9 Some trees were covered in dense Ivy or were inaccessible (as detailed in Appendix 4). In such cases measurements were estimated and the condition values are indicative only.

3.2.10 The tree Root Protection Area (RPA) detailed on the Tree Constraints Plan at Appendix 5 has been used as a layout design tool, to inform on the area around a tree where the protection of the roots and soil structure is treated as a priority.

3.2.11 Some lower value tree, hedge and shrub groups do not have RPAs detailed on tree plans. The detailed extent and spread of these low value groups, in conjunction with the tree schedule, is sufficient to assess the associated potential constraints.

3.2.12 The RPA for each tree has been plotted as a polygon centred on the base of the stem. Due to the presence of roads, structures, topography (and past tree management) the RPA is likely to be a simplified representation of the tree roots actual morphology and disposition. However, detailed modifications to the shape of the RPA would largely be based on conjecture and so have been avoided.

4. Arboricultural Impact Assessment

4.1 Proposed New Development

4.1.1 It is proposed to build a 9 new residential dwellings with associated access, landscaping and facilities. The development proposals have been provided by my client and inform this arboricultural impact assessment and the Tree Impacts Plan at Appendix 6.

4.2 Indirect Impacts

4.2.1 The tree Root Protection Area (RPA) detailed on the Tree Plans at Appendix 5 and 6, has been used as a layout design tool, to inform on the area around a tree where the protection of the roots and soil structure is treated as a priority.

4.2.2 Potentially damaging activities are proposed in the vicinity of retained trees. The new development encroaches close to and into the edge of the RPA of T1 and T3. Construction within the RPA, can have negative impacts on tree roots. However, the encroachment is very minor, and the detailed RPA for these trees is likely to be a slightly exaggerated representation of the trees actual rooting area. As such, it is unlikely that significant roots will be within these areas and the retained tree should remain largely unaffected by the works, provided care is taken during construction.

4.2.3 New landscaping and construction is proposed that encroaches into the edge of the RPA of T4. The construction of hard surfaces within the RPA can have negative impacts on tree roots. However, the potential negative impacts can often be overcome or minimised by employing a 'no-dig' type construction methods with a porous final surface.

4.2.4 The design of the new development has considered the trees crown position in relation to the dwellings. Some shade from trees may be beneficial. In particular, deciduous trees give shade in summer but allow access to sunlight in winter. However, the design proposals avoid excessive shading, and give adequate provision for future tree growth.

4.2.5 The buildability of the proposed development has been assessed in terms of access, adequate working space and provision for the storage of materials, including topsoil, in relation to the trees.

4.3 Suitable Mitigation

4.3.1 The development of the site provides an excellent opportunity to undertake new tree planting throughout the site as part of a soft

landscaping scheme. As such, suitable new tree planting has the potential to mitigate for the required tree removals and, in the longer term, has the potential to improve the sites tree cover.

4.4 Protection of the Retained Trees

4.4.1 The retained trees will require protection by fencing in accordance with BS 5837: 2012, during the development phase.

4.4.2 If required by the Local Planning Authority, an associated Arboricultural Method Statement, detailing protective fencing specifications and construction methods close to the retained trees can be provided.

5. Signature

I trust this report provides all the required information.

Signed



.....

Adam Winson, *Chartered Arboriculturist, MSc, BSc (Hons), MICFor, ACIEEM.*

13th May 2020

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Appendices

Appendix 1: Authors Qualifications and Experience
Appendix 2: Survey Methodology and Limitations
Appendix 3: Explanation of Tree Descriptions
Appendix 4: Tree Data
Appendix 5: Tree Constraints Plan
Appendix 6: Tree Impacts Plan

Appendix 1: Authors Qualifications & Experience

Mr Adam Winson *Chartered Arboriculturist, MSc, BSc (Hons), MICFor, MArborA, ACIEEM, QTRA Registered*

Adam is the company Director and Principle Consultant. He has a mix of the highest level academic qualifications and relevant work experience. He has worked within the tree care profession for over 20 years, and was awarded an MSc in Arboriculture and Urban Forestry, with distinction. Adam is a Chartered Arboriculturist and a Registered Consultant with the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association and has original research published by the UK Forestry Commission. His work ranges from individual expert tree inspections to managing trees on major multimillion pound housing developments and infrastructure projects. His work often involves trees with preservation orders or litigation, and he has appeared as a tree expert, at planning appeal hearings up to the Crown Court.

Mr James Brown *BSc (Hons) Arboriculture, MArborA, PTI (Lantra)*
James has a BSc (Hons) in Arboriculture, attaining first class honours, as well as being awarded the Institute of Chartered Forester's Student award. He is a Professional Member of the Arboricultural Association and an Associate of the Institute of Chartered Foresters. James previously worked in Europe's largest tree nursery and has experience of Local Authority tree officer work. His main work consists of tree surveys for development projects and preparing Tree Protection Schemes to BS 5837:2012.

Mr Dave Farmer *FdSc (Arb), MArborA, PTI (Lantra)*
Dave has a Foundation Degree in Arboriculture (with Distinction) and is qualified in Professional Tree Inspection. He is a Professional Member of the Arboricultural Association and an Associate of the Institute of Chartered Foresters. Dave has many years of experience within the tree care profession, including lecturing in arboriculture. His work focuses on diagnosing potential tree risk problems, and recommending appropriate treatments and work programmes.

Dr Felicity Stout *Ph.D, MA, BA (Hons), Cert Ed (Forestry), TechArborA. PTI (Lantra)*
Felicity has worked in the tree care profession for the last 10 years. She has a Certificate in Higher Education in Forestry, with a focus on Urban Forestry. She has practical arboricultural contractor experience and is a qualified and experienced Social Forestry practitioner. Felicity has a PhD in History, with a particular interest in the history of woodland and tree management and has published in The Arboricultural Journal on this subject.

Mr Patrick Rowntree *Cert Arb L3, TechArborA, PTI (Lantra)*
Patrick is a trained arborist with 5 years of experience in both the private and commercial sectors and is a technician member of the Arboricultural Association. Having travelled the world, both working as an arborist and playing professional rugby, Patrick was awarded a Distinction in the Extended Diploma in Forestry & Arboriculture and is qualified in Professional Tree Inspection. Patrick now uses his work and education experience at AWA, focusing on accurate tree data collection for tree surveys for development projects and assisting the team in the preparation of tree reports and tree plans to BS 5837:2012.

Mr Drew Leeper *Cert Arb L3, TechArborA*
Drew has over 10 years' experience within the arboricultural sector and was awarded Distinction in the Extended Diploma in Forestry & Arboriculture. From working abroad in Canada as a climbing arborist and returning home to running his own tree care firm. Drew has also been fortunate enough to gain valuable experience working at the Royal Botanical Gardens of Kew. He now uses his work and education experience at AWA, focusing on accurate tree data collection for tree surveys for development projects and assisting the team in the preparation of tree reports and tree plans to BS 5837:2012.

Appendix 2: Survey Methodology and Limitations of Report

The survey was undertaken in accordance with British Standard 5837:2012 *Trees in relation to design, demolition and construction – Recommendations.* The trees were assessed objectively and without reference to any proposed site layout. The trees were surveyed from the ground using 'Visual Tree Assessment' (VTA) methodology. VTA is appropriate and is endorsed by industry guidance. It is used by arboriculturists to evaluate the structural integrity of a tree, relying on observation of trees biomechanical and physiological features. Measurements are obtained using a diameter tape, clinometer, laser distometer and loggers tape. Where this is not practical measurements are estimated. Tree groups have been identified in instances as defined in BS 5837:2012. Shrubs and insignificant trees may have been omitted from the survey.

This report represents a BS5837 tree survey and should not be accepted as a detailed tree safety inspection report; however, tree related hazards are recorded and commented upon where observed, yet no guarantee can be given as to the absolute safety or otherwise of any individual tree. All recommended tree work must be to BS 3998:2010 - '*Tree Work: Recommendations*'.

The findings and recommendations contained within this report are valid for a period of twelve months from the date of survey. The author 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 these guidelines and terms.

Appendix 3: Explanation of Tree Descriptions

HEIGHT of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.

CROWN HEIGHT is an indication of the average height at which the crown begins and includes information of the first significant branch and direction of growth.

STEM DIAMETER is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level or else a combined stem diameter is calculated.

CROWN SPREAD is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

AGE CLASS of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

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.

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.

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.

Retention Categories

A (marked in green on Appendix 5) = retention most desirable. These trees are of very high quality and value with a good life expectancy.

B (marked in blue on Appendix 5) = retention desirable. These trees are of good quality and value with a significant life expectancy.

C (marked in grey on Appendix 5) = trees which could be retained. These trees are of low or average quality and value, and are in adequate condition to remain until new planting could be established.

U (marked in red on Appendix 5) = trees for removal. These trees are in such a condition that any existing value would be lost within 10 years.

Appendix 4: Tree Data

TREE DATA

	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T1	Willow	*Salix sp.*	Semi-mature	9.5	1	280	Yes	4	1	1.5	3.5	2.5	No visual defects, Limited access around base	Single stemmed, Vertical, Stubs, Epicormic growths, Tight union	Unbalanced, Low vigour, Moderate dieback, Minor deadwood	Situated in adjacent property beyond 2m boundary fence preventing detailed inspection and limiting access. Laburnum saplings at base.	Poor	Fair	20 to 40 yrs	Low	**C**	No works required.
T2	Swedish Whitebeam	*Sorbus intermedia*	Semi-mature	5.5	6	90 avg	Yes	1.5	1.5	0.5	2	2	No visual defects, Limited access around base	Multiple stemmed at base, Slight lean, Stubs, Epicormic growths, Tight union, Partially included bark	Unbalanced, Small / sparse, Minor deadwood	Situated in adjacent land beyond boundary fence, limiting access. Sparse eastern aspect.	Poor	Fair	20 to 40 yrs	Low	**C**	No works required.
T3	Birch	*Betula pendula*	Semi-mature	4	1	70	Yes	2	1	0.5	1	1	No visual defects, Limited access around base	Single stemmed, Slight lean, Old pruning wounds	Unbalanced, Minor deadwood	Situated in adjacent land beyond boundary fence preventing detailed inspection and limiting access. Sparse eastern aspect.	Fair	Fair	>40 yrs	Low	**C**	No works required.
T4	Maple	*Acer platanoides*	Semi-mature	10	1	250	Yes	4	3	1	4	3.5	No visual defects, Limited access around base	Single stemmed, Vertical, Stubs, Epicormic growths, Tight union, Partially included bark	Unbalanced, Minor deadwood	Situated in adjacent land beyond boundary fence preventing detailed inspection and limiting access. Sparse eastern aspect.	Fair	Fair	>40 yrs	Moderate	**C**	No works required.

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	Tree Species			Measurements				Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T5	Maple	*Acer platanoides 'Crimson King'*	Semi-mature	8.5	1	200	Yes	2	3	3	1.5	3.5	No visual defects, Limited access around base	Single stemmed, Stubs, Epicormic growths, Bark damage	Low vigour, Minor deadwood, Southern aspect suppressed by larger adjacent Maple	Situated in adjacent land beyond boundary fence preventing detailed inspection and limiting access. Minor bark damage from fence posts screwed to stem.	Fair	Fair	>40 yrs	Moderate	**C**	No works required.
T6	Sycamore	*Acer pseudoplatanus*	Semi-mature	9.5	1	180	Yes	3	2	2	2	2	No visual defects, Limited access around base	Single stemmed, Vertical, Stubs, Epicormic growths, Ivy covered	Low vigour, Minor deadwood	Situated in adjacent land beyond boundary fence preventing detailed inspection and limiting access. Dense ivy further preventing detailed inspection. Measurements indicative only. Ivy beginning to overcome crown. Limited long-term value.	Fair	Fair	20 to 40 yrs	Low	**C**	No works required.

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T6

T5

T4

Laburnum saplings

Dense mixed shrubs

T3

T2

T1

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Appendix 5:
Tree Constraints Plan

Land at Birk Ave, Barnsley S70 3AH
Ref: AWA3174

BRITISH STANDARD 5837:2012
RETENTION CATEGORIES
Definitions of these categories can be found in Appendix 2 of the report.

SCALE: 1:200 PAPER: A3

	CATEGORY A: HIGH VALUE RETENTION MOST DESIRABLE
	CATEGORY B: MODERATE VALUE RETENTION DESIRABLE
	CATEGORY C: LOWER VALUE COULD BE RETAINED
	CATEGORY U: FOR REMOVAL
	RPA: ROOT PROTECTION AREA
	TREE STEM

T6

T5

T4

Laburnum saplings

Dense mixed shrubs

T3

T2

T1

NORTH

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Appendix 6:
Tree Impacts Plan

Land at Birk Ave, Barnsley S70 3AH
Ref: AWA3174

BRITISH STANDARD 5837:2012

SCALE: 1:200 PAPER: A3

	TREE/HEDGE TO BE RETAINED
	TREE/HEDGE TO BE REMOVED
	RPA: ROOT PROTECTION AREA
	TREE STEM