TREE CONSULTANTS

ARBORICULTURAL REPORT

& Impact Assessment

to **BS5837:2012** at:

Land at

Bismarck Street,
Worsbrough,
Barnsley,
South Yorkshire
S70 4NA

Prepared for:
Gary Greetham Associates Ltd
18 Carr Ln,
Tankersley,
Barnsley
S75 3BE

Date: *February 2019*

Reference: *AWA2575*

Institute of Chartered Foresters
Registered Consultant

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Union Forge, 27 Mowbray Street, Sheffield, S3 8EN. AWA Tree Consultants Limited. Company No. 8520123. Registered in England & Wales.

Contents

1. Introduction

1.1 Instructions and Brief

1.1.1 We are instructed by Gary Greetham of Gary Greetham Associates Ltd 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 February 2019.

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 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, 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**.

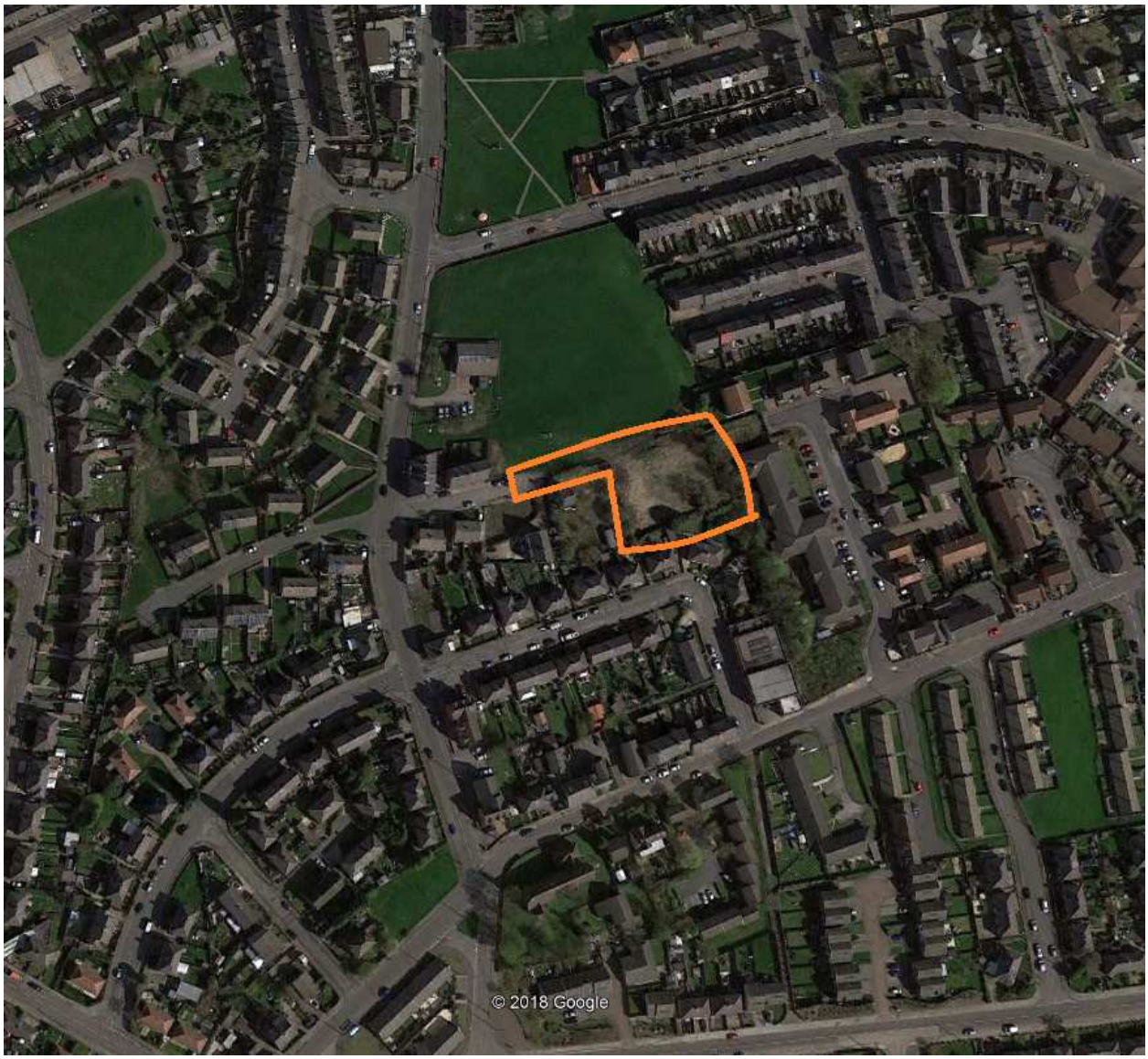
2. The Site

2.1 Location and Description

2.1.1 The site is located in Worsbrough, in the Metropolitan Borough of Barnsley, approximately 1.5 miles south of the town centre.

2.1.2 The site comprises an open disused field with residential properties to the east and south and another open field to the north.

2.1.3 The approximate area of the survey is highlighted in the (2018) image below:



3. The Trees

3.1 Legal

3.1.1 Due to the large potential penalties for illegally carrying out work to protected trees, before authorising any tree works a check should be made with the Local Planning Authority to see if the trees are covered by a Tree Preservation Order or if they are within a Conservation Area (unless such works are approved by planning permission). If either applies, then statutory permission is required before any works can take place.

3.1.2 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance. 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 12 items of woody vegetation, comprised of 9 individual trees and 3 groups of trees or hedges.

3.2.2 Of the surveyed trees: 3 trees are retention category 'U', and the remaining 6 trees and 3 groups are retention category 'C' (explanatory details regarding the retention categories are included within Appendix 3).

3.2.3 The significant tree cover consists mainly of low-value boundary trees and tree groups situated in adjacent properties, with only occasional trees situated within the site boundaries. Many of the trees were found to have significant defects which limit their long-term prospects.

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

3.2.5 Species diversity at the site is fair, with several Maple and Sycamore and the occasional Birch, Cypress, Laurel, Willow and Elder. Most of the trees are semi-mature with occasional early mature trees.

3.2.6 The boundary groups G1 and G2 are in an adjacent property to the west, alongside boundary fencing. These are recent self-set saplings of pioneer species that have established since the property has become disused. They have little amenity or arboricultural value.

3.2.7 Close to the southern site boundary within an adjacent property is a large Cherry Laurel T4. This tree is visually prominent and provides good screening value from the property beyond. However, the partially-failed western stem which leans into the site should be removed regardless of future development. A full detailed inspection of the base and stems of the tree was prevented due to the limited access and visibility.

3.2.8 Towards the south-east corner of the site is a Poplar T6. This tree has a several significant defects that make it unsuitable for retention regardless of any future development of the site, due to its proximity to the garden area of an adjacent property.

3.2.9 A group of tall semi-mature Leyland Cypress trees, G8 is situated in the south-eastern corner of the site on adjacent land. These trees provide screening value and have reasonable long-term prospects.

3.2.10 Beyond the eastern boundary, situated on a steep banking, are early-mature Sycamores T9 & T10. Both trees have significant structural defects that significantly limit their prospects. Due to the poor condition and likelihood of failure of these trees, it is strongly advised that the landowner is informed so they can be removed or managed appropriately.

3.2.11 The semi-mature Sycamores T11 and T12 are located to the north-east of the site. These low value trees have defects that have the potential to limit their longer-term prospects.

3.2.12 Some trees were inaccessible (as detailed in Appendix 4) in such cases measurements were estimated and the condition values are indicative only.

3.2.13 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.

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

4. Arboricultural Impact Assessment

4.1 Proposed New Development

4.1.1 It is proposed to build a new residential development 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 Direct Impacts

4.2.1 From assessing the new development proposals, 2 trees and 1 group will require removal as they are situated in the footprint of the structure or their retention and protection throughout the development is not suitable.

4.2.2 The trees that require removal are G1, T11 and T12.

4.2.3 The trees that require removal are all lower value, retention categories 'C'. The long-term prospects of low value self-set tree group G1 are limited due to their location, growing against and through the boundary fence. The trees T11 and T12 have significant defects that limit their long-term prospects and make their retention unsuitable close to the proposed development.

4.2.4 Due to the low value of the trees to be removed the removals will have only a negligible negative arboricultural impact.

4.2.5 The trees T6, T9 and T10 are also advised to be removed for arboricultural reasons, regardless of any future development at the site.

4.3 Indirect Impacts

4.3.1 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. As such, no significant negative indirect impacts have been identified.

4.4 Suitable Mitigation

4.4.1 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.

4.5 Protection of the Retained Trees

4.5.1 The retained trees may require protection by fencing in accordance with BS 5837: 2012, during the development phase. The protective fencing for this site should be located to protect the RPAs of the retained trees as detailed on the attached Tree Impacts Plan at Appendix 6.

4.5.2 The final fencing position should be agreed on by the LPA before the commencement of any site works. The protective fencing will be appropriate to the degree and proximity of likely construction works. In this instance, it is suggested (if acceptable by the LPA) an adequate level of protection for the trees could be provided by 'Heras' type fencing, of welded mesh panels on rubber or concrete feet.

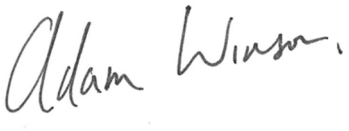
4.5.3 The area enclosed by the fencing is referred to as the Construction Exclusion Zone (CEZ); this area should be considered a restricted area. No pedestrians, vehicles, storage of materials, equipment or machinery should be allowed with the CEZ. The site manager must ensure that all personnel are aware of the restrictions that apply to the fenced-off area.

4.5.4 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



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

28th February 2019

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Appendices

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.*

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.*

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.

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. 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.

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 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 Species		Measurements					Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	Maturity	*Height (m)*	*Stems*	*Stem Dia (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
G1	Maple	*Acer platanoides*	Semi-mature	6	10+	90 avg	No	2.5	See plan.				Limited access around base, No visual defects	Single stemmed, Vertical, Stubs, Bark damage	Normal, Minor deadwood	Boundary group situated in adjacent property. Occasional Elder. Some stems growing through fence causing bark damage.	Fair	Fair	>40 yrs	Low	**C**	Removal required to facilitate development
G2	Maple, Birch, Willow, Elder	*Acer sp. Betula sp. Salix sp. Sambucus sp.*	Semi-mature	6	10+	80 avg	Yes	3	See plan.				Limited access around base, No visual defects	Single & Multiple stemmed at base, Vertical, Slight lean, Epicormic growths, Stubs, Bark damage, Tight union	Normal, Minor deadwood	Mixed boundary group situated in adjacent property.	Fair	Fair	20 to 40 yrs	Low	**C**	No works required
T3	Willow	*Salix caprea*	Semi-mature	7	10+	90 avg	Yes	1	3.5	2	3	1.5	Limited access around base, No visual defects, Exposed roots	Multiple stemmed at base, Vertical, Stubs, Old pruning wounds, Epicormic growths, Minor cavity, Tight union	Normal, Minor deadwood	Situated in adjacent property.	Fair	Fair	>40 yrs	Low	**C**	No works required
T4	Cherry Laurel	*Prunus laurocerasus*	Early-mature	8	7	130 avg	Yes	2	2.5	3.5	2	4	Limited access around base, Soil compaction / Building waste piled to north of fence.	Multiple stemmed at base, Vertical, Old pruning wounds, Stubs, Bark damage, Tight union, Partially included bark, Major cavity	Normal	Situated in adjacent property. No access and limited visibility. Western stem has split at primary union at 2.5m, likely to fail into site.	Fair	Poor	20 to 40 yrs	Moderate	**C**	Remove split western limb overhanging the site

	Tree Species		Measurements					Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	Maturity	*Height (m)*	*Stems*	*Stem Dia (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T5	Lawson Cypress	*Cupressus sp.*	Semi-mature	8	2	150 90	Yes	2	2	2.5	2.5	1.5	No visual defects, Limited access around base	Twin stemmed at 1.5m, Vertical, Stubs	Normal	Situated in adjacent property.	Good	Good	>40 yrs	Low	**C**	No works required
T6	Poplar	*Populus sp.*	Early-mature	12	5	260 280 350 390 280	No	5	3.5	7	4	4.5	Soil compaction, Soil erosion, Exposed roots, Damage to buttress roots	Multiple stemmed at base, Slight lean, Stubs, Old pruning wounds, Epicormic growths, Bark damage, Major cavities, Minor decay, Decay fungi	Normal, Minor deadwood	Significant bark damage to all stems. Western stem has historically split leaving large tear wound with decay fungi. Southern side of 3 stems have major cavities from base to 2.5m. Two decaying historically failed stems to north and west.	Poor	Poor	<10 yrs	Low	**U**	Removal required regardless of future development.
T7	Cherry Laurel	*Prunus laurocerasus*	Semi-mature	5.5	3	100 90 40	No	0	2.5	3	1	3	Soil compaction, Exposed roots	Multiple stemmed at base, Slight lean, Stubs, Old pruning wounds, Bark damage, Moderate cavity	Normal, Minor deadwood	Large amount of soil and waste piled in primary cup-like union. Small northern leaning stem has moderate tear from base to 2m. Limited long-term value.	Fair	Poor	10 to 20 yrs	Low	**C**	No works required
G8	Leyland Cypress	*X Cuprocyparis leylandii*	Semi-mature	9	10+	120 avg	No	1	See plan.				No visual defects, Limited access around base	Single stemmed at base, Vertical, Stubs, Tight union	Normal, Minor deadwood, Snapped / hanging branches	Situated in adjacent property. 3rd stem to west has historically failed at 3m. Sparse crown to northern side.	Fair	Good	>40 yrs	Low	**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 Dia (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T9	Sycamore	*Acer pseudoplatanus*	Early-mature	13	1	400	No	3	4	4	4.5	3.5	Limited access around base, Exposed roots	Twin stemmed at 2m, Slight lean, Stubs, Major cavity	Normal, Snapped / hanging branches, Minor deadwood	Situated in adjacent property. Large co-dominant stem has historically failed at 2m leaving major wound which extends to base. Large fungal bracket to south east of stem at 2m. Large epicormic growth at base.	Fair	Poor	<10 yrs	Low	**U**	Inform tree owner as to poor condition of tree. Removal advised regardless of future development.
T10	Sycamore	*Acer pseudoplatanus*	Early-mature	10	5	220 260 190 300 320	No	4	3.5	3.5	3.5	4	Soil erosion, Soil compaction	Multiple stemmed at 1m, Vertical, Stubs, Bark damage, Cup-like union collecting dirt/water, Moderate cavities, Moderate decay	Normal, Minor deadwood	Large cavity to east of stem from base to primary union. Moderate active central decay. Very limited long-term prospects.	Fair	Poor	<10 yrs	Low	**U**	Inform tree owner as to poor condition of tree. Removal advised regardless of future development.
T11	Sycamore	*Acer pseudoplatanus*	Semi-mature	10	1	320	No	2.5	2.5	3	3.5	3	Ground level changes	Single stemmed, Vertical, Stubs, Minor cavities	Normal, Minor deadwood, Snapped / hanging branches	3 moderate sized stubs to south west from previously snapped branches. Ground level increases by 1m to west of stem. Limited long-term value.	Good	Fair	10 to 20 yrs	Low	**C**	Removal required to facilitate development

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	Tree Species		Measurements					Crown (m)					Tree Condition							Value		Management
Tree ID	*Common Name*	*Latin Name*	Maturity	*Height (m)*	*Stems*	*Stem Dia (mm)*	*Estimated*	*Ave Height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T12	Sycamore	*Acer pseudoplatanus*	Semi-mature	9	1	220	No	2	3	3	2.5	2	Soil compaction, Ground level changes	Single stemmed, Vertical, Stubs, Epicormic growths, Bark damage, Tight union	Normal, Minor deadwood	Several areas of bark damage on main stem. Limited long-term value.	Good	Fair	10 to 20 yrs	Low	**C**	Removal required to facilitate development

T12

T11

Elder shrubs

T10

T9

Goat Willow, 3m

G1

G2

T3

T6

T7

G8

T5

T4

NORTH

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Appendix 5:
Tree Constraints Plan

Land at Bismarck Street, Worsbrough
Ref: AWA2575

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

SCALE: 1:200 PAPER: A2

	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

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Appendix 6: Tree Impacts Plan

Land at Bismarck Street, Worsbrough
Ref: AWA2575

BRITISH STANDARD 5837:2012

SCALE: 1:200 PAPER: A2

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