TREE CONSULTANTS

ARBORICULTURAL REPORT

& Impact Assessment

to **BS5837:2012** at:

Knowles Quarry,
Barnsley Road,
Cudworth,
Barnsley,
S72 8UU.

Prepared for:
Peter Dimberline Architecture Ltd
2 Tipsey Court,
Mapplewell,
Barnsley,
S75 6FZ

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Reference: *AWA3025*

Institute of Chartered Foresters
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1. Introduction

1.1 Instructions and Brief

1.1.1 We are instructed by Peter Dimberline 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 January 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 We have been provided with a topographical survey with tree positions plotted. Where surveyed trees were not included on the topographical survey the tree positions were plotted 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. The tree survey data collection was carried out by Mr Drew Leeper, Cert Arb L3, Arboriculturist at AWA Tree Consultants Ltd.

1.2.6 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 on Barnsley Road in Cudworth, an urban village approximately 3.5 miles north-east of Barnsley's city centre in South Yorkshire

2.1.2 The site comprises of a disused quarry with remnants of existing buildings. Dense scrub covers the majority of the site, with individual trees dotted throughout. The quarry cliff walls are prominent on the north and western side of the site. The increase in elevation gain on top of the quarry pit opens out into a paddock field with views stretching out across the surrounding area.

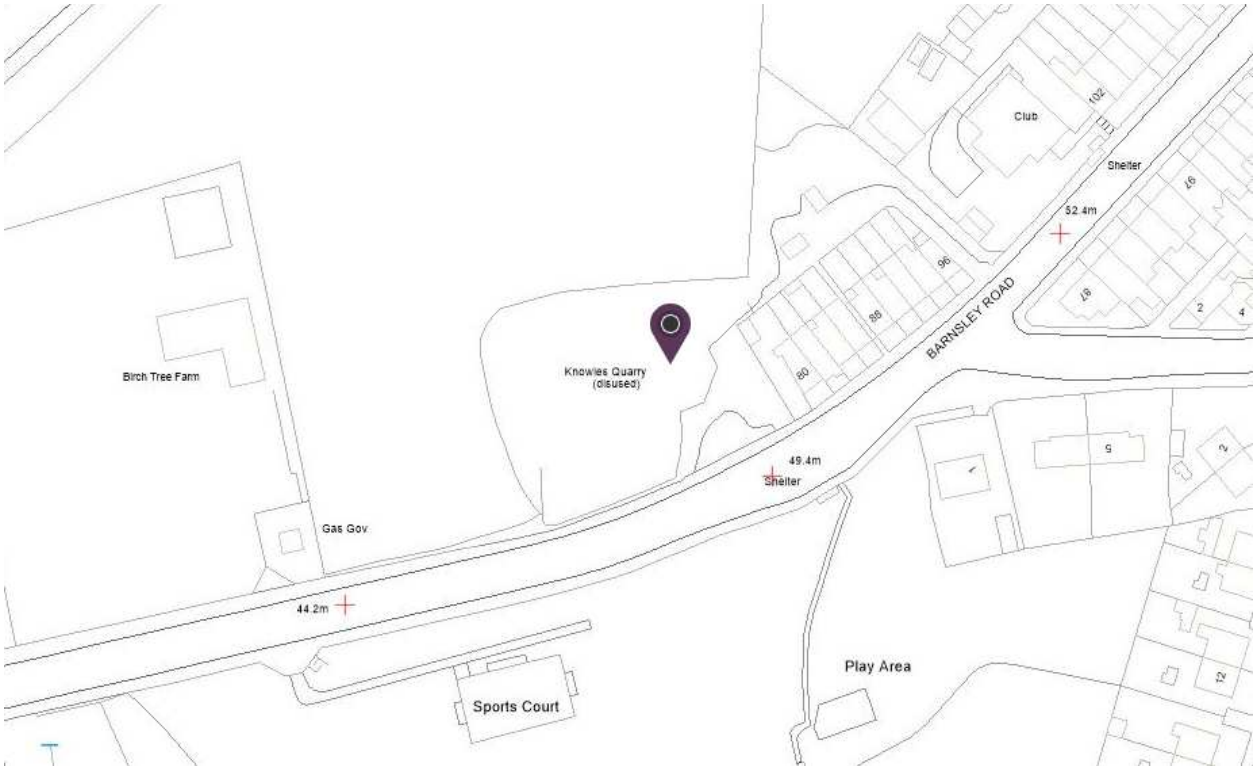
2.1.3 The approximate area of the survey is highlighted in the (2018 Google Earth) image below:



3. The Trees

3.1 Legal

3.1.1 An online search has been carried out with Barnsley Council on 27/01/20 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 are covered by such protection.



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 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.

3.1.3 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance. 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 24 items of woody vegetation, comprised of 23 individual trees and 1 group of trees and shrubs

3.2.2 All the surveyed trees are lower value retention category 'C' (explanatory details regarding the retention categories are included within Appendix 3).

3.2.3 Most of the trees are semi-mature naturalised pioneer species that have established since the site was abandoned. Species diversity at the site is relatively poor, with Willow, Hawthorn, Birch and Oak the only tree species present.

3.2.4 The understory within the central areas of the site contain little of arboricultural significance, generally consisting of bindweed and fern scrub amongst dense bramble.

3.2.5 The Oak trees T21, T22, T23 and T24 are situated on top of the western cliff. As such, they are relatively prominent due to their higher elevation and collectively provide reasonable visual amenity value. They have been previously cut back as coppiced stands in the past creating a multiple-stemmed form and so could be re- coppiced again for future retention.

3.2.6 Oak T18 is currently of low value but has the potential to have good prospects. The remaining trees are of low value and should therefore not pose any constraints on the site's development potential.

3.2.7 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.

3.2.8 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.

3.2.9 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 new residential development of 6 dwellings with associated access, landscaping and facilities.

4.1.2 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, 16 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 T2, T3, T4, T5, T6, T7, T9, T10, G11, T12, T13, T14, T15, T16, T17, T18 and T19.

4.2.3 Their collective removal will have a minor loss of amenity in the short term. The tree removals can be mitigated against in the longer term with new tree plantings of more suitable tree species as part of a robust soft landscaping scheme 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.

4.3.2 The new development encroaches close to and into the edge of the RPA of T20, T21, T22, T23 and T24. However, the trees are situated around 9m above the proposed development on the cliff edge and therefore no roots will be within the development areas and the retained trees should remain largely unaffected by the works, provided care is taken during construction.

4.3.3 The design of the new development has considered tree crown positions in relation to the new 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.

4.3.4 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.

4.4 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.

4.4.2 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.

4.5.2 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



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

30th January 2019

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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. 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 the private and commercial sectors, both in the UK and New Zealand. Formerly a professional rugby player, Patrick was awarded a distinction in the Extended Diploma in Forestry & Arboriculture and is a technician Member of the Arboricultural Association. Patrick now uses his experience at AWA focusing on BS5837:2012 tree surveys for development projects; this involves accurate tree data collection and the preparation of tree reports to BS 5837:2012.

Mr Drew Leeper, *Arboricultural Technician, Cert Arb L3, TechArborA.*
Drew is an accomplished arborist with over 10 years of experience, having worked at Royal Botanic Gardens Kew, and managing his own tree contracting firm. Drew was awarded a Distinction in the Extended Diploma in Forestry & Arboriculture and is a technician member of the Arboricultural Association. Drew's work focuses 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.

	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	Ash	*Fraxinus excelsior*	Young	6	1	70	No	2.5	2	2	1	5	Limited access around base, Ground level changes, Increase in soil level	Single stemmed, Significant lean, Epicormic growths, Bark damage, Tight union	Normal	Growing through canopy of neighbouring Willow tree.	Fair	Fair	>40 yrs	Low	**C**	No action required
T2	Willow	*Salix caprea*	Early-mature	7	6	200	No	0.5	5.5	4.5	5.5	5.5	Limited access around base, Increase in soil level, Ground level changes. Rubble debris on eastern side on stem base with 1 metre gradual gradient change.	Multiple stemmed at 0.5m, Epicormic growths, Old pruning wounds, Stubs, Tight union, Par ially included bark	Old pruning wounds, Minor deadwood	Tree covered with ivy bramble and bindweed at base and into stem unions this prevented detailed inspection. Cankers on stem and branches. Has been reduced to 4 metres in the past.	Poor	Poor	20 to 40 yrs	Low	**C**	Remove to facilitate new development
T3	Hawthorn	*Crataegus monogyna*	Semi-mature	7	10	85	Yes	2	3	3.5	3	3	Limited access around base	Multiple stemmed at base, Epicormic grow hs, Stubs, Bark damage, Tight union	Snapped/hanging branches, Normal, Minor deadwood	Tree is densely covered in brambles, ferns and bindweed this prevented detailed inspection.	Fair	Fair	>40 yrs	Low	**C**	Remove to facilitate new development
T4	Hawthorn	*Crataegus monogyna*	Semi-mature	6	10	70	Yes	0.5	4	3	3.5	4	Limited access around base, Ground level changes. Old stone retaining wall on western side at approximately 0.5m.	Multiple stemmed at base, Epicormic grow hs, Stubs, Old pruning wounds, Tight union	Old pruning wounds, Minor deadwood	Tree is densely covered in brambles, ferns and bindweed this prevented detailed inspection.	Fair	Fair	>40 yrs	Low	**C**	Remove to facilitate new development

	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	Hawthorn	*Crataegus monogyna*	Semi-mature	6.5	10	80	No	0.5	3	3	3	3	Limited access around base, Ground level changes. Old stone retaining wall on western side at approximately 0.5m.	Multiple stemmed at base, Epicormic grow hs, Stubs, Old pruning wounds, Tight union	Old pruning wounds, Normal	Tree is densely covered in brambles. Southern side has been trimmed back from pavement by approximately 2.5metres.	Fair	Fair	>40 yrs	Low	**C**	Remove to facilitate new development
T6	Hawthorn	*Crataegus monogyna*	Semi-mature	4.5	3	90, 50, 60	Yes	0.5	2.5	2.5	1	1.5	Ground level changes	Multiple stemmed at base, Epicormic growths, Tight union, Stubs	Normal. Old stone retaining wall on western side at approximately 0.5m.	Two multiple stemmed hawthorns forming one canopy. Situated on top of crumbling stone wall at approximately 0.5metres. Has been trimmed back from pavement.	Fair	Fair	>40 yrs	Low	**C**	Remove to facilitate new development
T7	Hawthorn	*Crataegus monogyna*	Early-mature	6	8	70	Yes	0.5	2	2	1	2	Ground level changes	Multiple stemmed at base, Epicormic growths, Tight union, Stubs	Normal. Has been trimmed back from pavement.	Two multiple stemmed hawthorns forming one canopy. Situated on top of crumbling stone wall at approximately 0.5m.	Fair	Fair	>40 yrs	Low	**C**	Remove to facilitate new development

	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*
T8	Hawthorn	*Crataegus monogyna*	Semi-mature	3	1	100	Yes	1	2	2	2	2	Limited access around base, No visual defects	Single stemmed at 1m, Epicormic growths, Stubs	Old pruning wounds, Normal	Heavily covered in brambles reaching up into crown.	Fair	Fair	>40 yrs	Low	**C**	No action required
T9	Elder	*Sambucas nigra*	Early-mature	7	3	200, 210, 190	No	2	3	3	2.5	2.5	No visual defects	Multiple stemmed at base, Tight union, Par ially included bark, Epicormic growths, Stubs	Minor deadwood, Minor dieback, Epicormic growths	Bindweed and brambles surrounding and growing up into canopy.	Fair	Fair	10 to 20 yrs	Low	**C**	Remove to facilitate new development
T10	Hawthorn	*Crataegus monogyna*	Early-mature	7	2	150, 130	No	1	2	1	1	2.5	No visual defects	Twin stemmed at base, Stubs, Tight union	Normal	Bindweed and brambles surrounding and growing up into canopy.	Fair	Fair	>40 yrs	Low	**C**	Remove to facilitate new development
G11	Elder	*Sambucas nigra*	Semi-mature	4.5	10	70	Yes	0.5					Limited access around base	Multiple stemmed at base, Tight union, Par ially included bark, Epicormic growths, Stubs	Major deadwood, Major dieback, Epicormic growths	Group of elder covered in bindweed and brambles. 80% dead.	Poor	Poor	<10 yrs	Low	**C**	Remove to facilitate new development
T12	Birch	*Betula pendula*	Early-mature	10	1	390	No	1.8	3	3	3.5	3	No visual defects, Increase in soil level	Slight lean, Stubs, Epicormic growths	Normal	Bricks and debris piled at base of eastern side. Dense bramble and bindweed understory.	Good	Fair	20 to 40 yrs	Moderate	**C**	Remove to facilitate new development

	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*
T13	Willow	*Salix caprea*	Early-mature	11	1	360	No	2	4	4.5	4.5	1	Limited access around base	Single stemmed, Significant lean, Epicormic grow hs, Stubs, Ivy covered, Tight union, Partially included bark	Minor deadwood, Unbalanced, Epicormic growths. Significant large dead branch on lowest southern side of stem.	Ivy growing up base and stem prevented detailed inspection. 4 individual trees forming one canopy.	Fair	Fair	20 to 40 yrs	Moderate	**C**	Remove to facilitate new development
T14	Willow	*Salix caprea*	Early-mature	11	1	290	No	11	3.5	3	2	1	Limited access around base	Ivy covered	Minor deadwood, Snapped/hanging branches, Epicormic growths	Severe ivy growing up into crown prevented detailed inspection of base and stem.	Fair	Poor	20 to 40 yrs	Moderate	**C**	Remove to facilitate new development
T15	Willow	*Salix caprea*	Early-mature	12	1	350	No	4	5.5	5	3.5	2.5	Limited access around base	Single stemmed, Significant lean, Stubs, Bark damage. Cavity to western stem at approximately 1m with moderate decay .	Minor deadwood, Epicormic growths	Ivy covering base prevented detailed inspection.	Good	Fair	20 to 40 yrs	Moderate	**C**	Remove to facilitate new development
T16	Willow	*Salix caprea*	Early-mature	11	1	240	No	3	0.5	2	7	1.5	Limited access around base	Single stemmed, Significant lean, Epicormic grow hs, Stubs, Tight union, Partially included bark	Minor deadwood, Unbalanced, Epicormic growths, Bark wounds	Ivy covering base prevented detailed inspection	Fair	Fair	20 to 40 yrs	Moderate	**C**	Remove to facilitate new development
T17	Willow	*Salix caprea*	Early-mature	8.5	5	160, 240, 250, 260, 240	No	2	2	6	5	3	Limited access around base	Multiple stemmed at base, Epicormic grow hs, Stubs, Tight union, Minor cavity, Ivy covered	Minor deadwood, Epicormic growths	Ivy prevented detailed inspection of base and lower stem. Bark staining on inner western stem.	Fair	Fair	20 to 40 yrs	Low	**C**	Remove to facilitate new development

	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*
T18	Oak	*Quercus robur*	Semi-mature	9.5	1	190	No	3	2.5	3	3	3	No visual defects	Stubs	Bark wounds, Minor deadwood	Good form, with good future prospects.	Good	Good	>40 yrs	Low	**C**	Remove to facilitate new development
T19	Elder	*Sambucas nigra*	Semi-mature	3	1	90	No	1.5	1	1	2.5	1	Exposed roots	Significant lean, Epicormic growths, Stubs	Major deadwood, Unbalanced, Epicormic growths	Roots exposed of northern side. Heavily leaning east. Brambles growing up into crown.	Poor	Poor	<10 yrs	Low	**C**	Remove to facilitate new development
T20	Hawthorn	*Crataegus monogyna*	Semi-mature	5	10	70	Yes	2	2	2.5	2	1	Limited access around base, Ground level changes	Multiple stemmed at base, Stubs, Bark damage, Tight union, Partially included bark	Minor deadwood	Growing out of rock face so access was restricted, this prevented detailed inspection of base and stem. Understory of dense bramble and bindweed.	Fair	Poor	20 to 40 yrs	Low	**C**	No action required
T21	Oak	*Quercus robur*	Semi-mature	6.5	10	170	No	0.5	4	3.5	4.5	3.5	Limited access around base, Exposed roots, Damage to buttress roots	Multiple stemmed at base, Epicormic grow hs, Stubs, Old pruning wounds, Ivy covered, Bark damage, Tight union, Par ially included bark	Minor deadwood, Normal	Tree has grown on the cliff edge of he quarry pit wall. Has been coppiced in the past forming multiple stems at base. Ivy growing up into part of crown which has prevented detailed inspection of lower stem and base.	Fair	Fair	>40 yrs	Moderate	**C**	No action required

	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*
T22	Oak	*Quercus robur*	Semi-mature	6	10	120	Yes	1	3	3.5	3	3.5	Limited access around base	Multiple stemmed at base, Epicormic grow hs, Stubs, Old pruning wounds, Tight union, Ivy covered, Bark damage	Normal, Bark wounds, Epicormic growths, Minor deadwood	Tree has grown on the cliff edge of he quarry pit wall. Has been coppiced in the past forming multiple stems at base. Ivy growing up into part of crown which has prevented detailed inspection of lower stem and base.	Poor	Poor	>40 yrs	Moderate	**C**	No action required
T23	Oak	*Quercus robur*	Semi-mature	6	2	240, 120	No	2.5	3	2	3	3	Exposed roots, Limited access around base	Twin stemmed at base, Epicormic grow hs, Stubs, Bark damage	Minor deadwood, Normal	Set 2m away from cliff edge. Slight exposed roots on western side into paddock with minor soil compaction from horses. Ivy prevented detailed inspection of lower stem and base.	Fair	Fair	>40 yrs	Moderate	**C**	No action required
T24	Oak	*Quercus robur*	Semi-mature	4	1	150	No	0.5	1.5	1.5	1.5	1.5	Limited access around base	Single stemmed, Epicormic grow hs, Stubs, Ivy covered	Minor deadwood, Normal	Ivy prevented detailed inspection of base and stem and is situated very close to cliff edge.	Poor	Fair	20 to 40 yrs	Moderate	**C**	No action required

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Hawthorn shrubs

Oak, Hawthorn and Birch saplings

T24

T19

T18

T17

T1

T23

T22

T2

T14

T15

T13

T3

Hawthorn shrub

G11

T21

T16

T12

T4

T9

T10

T20

G11

T5

Hawthorn shrub

T7

T6

T8

47.0

FH

SV

NORTH

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Appendix 5:
Tree Constraints Plan

Knowles Quarry, Cudworth, S72 8UU.
Ref AWA3025

BRITISH STANDARD 5837:2012
RETENTION CATEGORIES
Definitions of these catagories 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

Hawthorn shrubs

Oak, Hawthorn and Birch saplings

T24

T19

T18

T17

T1

T23

T22

T2

RPA extent to be limited by cliff face to east of tree stems

T14

T15

T13

T3

G11

T21

T16

4 no 3 bed town houses

plot 6

plot 5

plot 4

T12

plot 3

T4

T9

T20

T10

T5

G14

2 no 3 bed town houses

plot 2

plot 1

T7

T6

T8

47.0

BT

NORTH

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Appendix 6:
Tree Impacts Plan

Knowles Quarry, Barnsley Road, S72 8UU
Ref: AWA3025

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