

Arboricultural Survey Data

Site: 5 Raby Park Wetherby, LS22 6SA

On Behalf of: My Modular

Date of Survey: 24/01/2024

Date: 02/02/2024

Reference: BA23621



















DOCUMENT CONTROL

Surveyed by*	John Evans			Report date	24/01/2024
Prepared by*	John Evans				
Reviewed by*	Sue Barnes				
Revision	A	Date	02/02/2024	Notes:	
	* Refer to qualificat	ions and	experience appendix	•	



The following survey has been prepared from a visual assessment taken from ground level without any detailed investigation. Observations are based upon the body language of the trees and any visual indicators present at the time of inspection. This survey should be regarded as a preliminary overview; ongoing inspections will be required as specified individually. In most situations, the health, condition and safety of trees should be checked on a cyclic basis, alternating between early and late seasons to ensure a full picture of tree health is established. Inspections should only be carried out by a suitably qualified arborist.

Similarly, numerous potential defects may not be detectable dependent upon the timing of inspection; in particular, wood decay fungi may only produce external fructifications annually (rather than perennially), or may not provide external symptoms until an advanced state is achieved.

Reasonable risk management generally aims to provide a tree that can be regarded stable in normal/foreseeable, regularly experienced storm events i.e. force 10 storms. The level of risk offered by the tree will be significantly greater as the wind speed that the tree is exposed to increases beyond this level. Additionally, the threat from aerial parts, i.e., included unions, may remain even following works, although failures of such parts are likely to be limited to small diameter branches and to periods of extreme weather.

As an arborist, I am a tree specialist and use my knowledge, education, training and experience to examine trees, recommend measures to enhance their beauty and health, and attempt to reduce the risk of living near trees. As a client, you may choose to accept or disregard these recommendations or seek additional advice.

As an arborist I cannot detect every condition that could possibly lead to a tree or limb failure. Trees are living organisms that may fail in many ways, some of which we do not fully understand.

Conditions are often hidden within the tree and below the ground. As arborists, we cannot guarantee that a tree will be healthy or safe under all circumstances or for a specified period of time. Sometimes trees may appear "healthy," but may be structurally unsound. Likewise, remedial treatment, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the Arboricultural perspective, such as property boundaries and ownership, disputes between neighbours, planning issues, sight lines, landlord-tenant matters etc. Arborists cannot take such issues into account unless complete and accurate information is given to them. Likewise, as an arborist I cannot accept any responsibility for the authorisation or non-authorisation of any recommended treatment or remedial measure.

Furthermore, certain trees are borderline cases as to whether they should remain or be removed. If conditions change a tree may need further monitoring in the future to determine its health and structure. Trees can be managed, but they cannot be controlled, and to live near a tree is to accept some degree of risk.

Mathematical abbreviations: > Greater than, < Less than.

Est: This includes any attributes that have been estimated.

Measurements/estimates: Measurements are taken with a tape, clinometer or laser. If dimensions are estimated, this will be indicated within the Est column.

Tree number: Numbered Tag attached to each stem, usually on the inside face of the stem at roughly 2.5 metres. Where the number is prefixed by a T, G, H, A, ST, S or W this denotes that the tag refers to a Tree, Group, Hedge, Area, Stump, Shrub or Woodland.

Name: Tree species are detailed by their common name- Latin can be provided upon request.

Age: I record the age as an estimate of the tree's likely span for guidance only, i.e.:

Young Recently established/planted tree.

M Mature
Fully established and growing with high vigour
The first third of its likely expected life span with sign of canopy retrenchment.

V Veteran
A Ancient

The middle one-third of its likely expected life span with sign of canopy retrenchment.

An aged example of the species, typically with defects & conservation value

Beyond its expected Life span possible of historical interest or in a state of decline

Height: I estimate height to the nearest metre to the mean height.

Crown Height: I estimate height to the nearest half metre to the mean underside of the canopy.

FSB: The height and direction of the First Significant Branch.

Diameter: These figures relate to a measurement of the stem at 1.5m above ground level recorded in millimetres, measured with a rounded-down diameter tape.

Canopy (NSEW): I estimate the distance of the canopy radius to the nearest metre to provide a mean distance of separation between the stem and the outer canopy.



Condition: Is a personal assessment of the tree's growth rate in the current season, in comparison to other trees within the locality, region and an indicator of the tree likely response to site change.

Good A tree of normal vitality

Fair A tree of lower vitality

Poor A tree of low vitality

Dead

A dead or very low vitality tree

Life Expectancy: Is a personal assessment of the trees likely expected remaining safe life span in years, assuming the current site management continues, or the tree is protected from significant environmental change. Trees can enter into serious decline with site changes and likewise, the expected safe life can be significantly improved following changes/improvements to site management and following remedial works.

Category: Assess in line with Table 1 BS5837 — copied below.

Symbol Guide:

BS5837	Cascade chart for tree quality assessment			
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	Trees that have a serious, irremediable, structural defect, such that their early loss is loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate, and irreversible or Trees infected with pathogens of significance to the health and/or safety of other trees value, which it might be desirable to preserve; see 4.5.7.	verall decline		Red on Plan
Trees to be considered for retention	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Green on Plan
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Blue on Plan
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey on Plan

NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.

Comments / Observations: General comments referring to tree health, structure and condition.

Management Options: Comments detailing remedial works required to improve immediate safety or improve the management of the tree.

Tree Risk Assessment: At Barnes Associates Ltd, we are experienced in the management of the risks associated with trees and have undertaken training in all of the principal methodologies in commercial use today, including Matheny and Clarke, Quantified Tree Risk Assessment (QTRA), THREATS (Tree Hazard: Risk Evaluation and Treatment System), Tree Risk Assessment Qualification (TRAQ) and VALID Tree Risk-Benefit Management & Assessment.

Having experience in several methods, it was perhaps inevitable that we developed our own system to reflect both the benefits of the other systems and changes in current legislation and court decisions, following continual study and application of tree risk management in the real world across the wide range of environments where trees can be found and in which we find ourselves.

We typically apply our BARMY (Barnes Associates Risk Method (of) Yorkshire) - we are proudly based in Yorkshire and could not resist the inclusion of the 'Y'. We openly admit this is a method based upon the THREATS, methodology. The complete details of THREATS (Tree Hazard: Risk Evaluation and Treatment System) can be found at https://www.flac.uk.com/wp-content/uploads/2010/07/THREATS-GN-June-2010.pdf

Firstly, we must thank Julian Forbes-Laird (JFL), for his work and philanthropic approach to developing and gifting this risk assessment methodology to the arboricultural and forestry world, which has been and continues to be used widely. However, following extended use and seeing several cases go through the legal system, one small element of the THREATS system became increasingly problematic for us; namely, the THREATS system included a 'None Apparent' failure score with a 0 (zero) and a Failure Score that attributed a 0 (zero) to sites with a Target Score of None. This results in a compounding multiplication risk assessment product of 0 (zero) score, as shown in the table below. Following long-term use, this felt increasingly uncomfortable and undefendable as it is difficult for us to conclude that any tree or site offers 'No Risk', unless access is strictly controlled or restricted.



Table 1 - Shows all possible outcomes using THREATS

	Impact Score	1	1	1	1	1	1	4	4	4	4	4	4	6	6	6	6	6	6	10	10	10	10	10	10
		Small <10cm	Small <10cm	Small <10cm	Small <10cm	Small <10cm	Small <10cm	Medium 10- 35cm	Medium 10- 35cm	Medium 10- 35cm	Medium 10-35cm	Medium 10- 35cm	Medium 10- 35cm	Large 35- 75cm	Large 35- 75cm	Large 35- 75cm	Large 35-75cm	Large 35- 75cm	Large 35- 75cm	Very Large >75cm	Very Large >75cm	Very Large >75cm	Very Large >75cm	Very Large >75cm	Very Large >75cm
	Target Score	0	7	15	20	25	40	0	7	15	20	25	40	0	7	15	20	25	40	0	7	15	20	25	40
Failure Score		None	Very Low	Low	Medium	High	Very High	None	Very Low	Low	Medium	High	Very High	None	Very Low	Low	Medium	High	Very High	None	Very Low	Low	Medium	High	Very High
0	None Apparent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.8	Potentially with time	0	5.6	12	16	20	32	0	22.4	48	64	80	128	0	33.6	72	96	120	192	0	56	120	160	200	320
2	Likely Foreseeable	0	14	30	40	50	80	0	56	120	160	200	320	0	84	180	240	300	480	0	140	300	400	500	800
8	Probable Soon	0	56	120	160	200	320	0	224	480	640	800	1280	0	336	720	960	1200	1920	0	560	1200	1600	2000	3200
50	Imminent Immediate	0	350	750	1000	1250	2000	0	1400	3000	4000	5000	8000	0	2100	4500	6000	7500	12000	0	3500	7500	10000	12500	20000

We could not knowingly conclude that a site or tree offered no risk, and this led to the development of BARMY to help better reflect our instincts in relation to the small but still present risk offered by trees on sites even when access is very limited.

Essentially, we have copied THREATS and to JFL we are eternally thankful for opening the door. However, to better reflect the site we manage and the sites we visit, we have substituted both the descriptors for the 'Target Score' from 'None' to 'Minimal' and the Failure Score from 'None Apparent' to 'Unlikely'. In undertaking these changes, we have adjusted the scores associated with these descriptions as described below and shown in the table below. We have elevated the score from 0 to 0.4 for 'Minimal. This is simply half of THREATS 'Potentially with time' score. Additionally, we have raised the score for None from 0 to 1.5 for 'Minimal'. The results of these small changes are shown in the table below.

Table 2 - Shows all possible outcomes using BARMY

	Impact Score	1	1	1	1	1	1	4	4	4	4	4	4	6	6	6	6	6	6	10	10	10	10	10	10
		Small <10cm	Small <10cm	Small <10cm	Small <10cm	Small <10cm	Small <10cm	Medium 10-35	Medium 10-35	Medium 10-35	Medium 10-35	Medium 10-35	Medium 10-35	Large 35-75	Large 35-75	Large 35-75	Large 35- 75	Large 35-75	Large 35-75	Very Large	Very Large	Very Large	Very Large	Very Large	Very Large
	Target Score	1.5	7	15	20	25	40	1.5	7	15	20	25	40	1.5	7	15	20	25	40	1.5	7	15	20	25	40
Failure Score		Minimal	Very Low	Low	Medium	High	Very High	Minimal	Very Low	Low	Medium	High	Very High	Minimal	Very Low	Low	Medium	High	Very High	Minimal	Very Low	Low	Medium	High	Very High
0.4	Unlikely	0.6	2.8	6	8	10	16	2.4	11.2	24	32	40	64	3.6	16.8	36	48	60	96	6	28	60	80	100	160
0.8	Potentially	1.2	5.6	12	16	20	32	4.8	22.4	48	64	80	128	7.2	33.6	72	96	120	192	12	56	120	160	200	320
2	Likely	3	14	30	40	50	80	12	56	120	160	200	320	18	84	180	240	300	480	30	140	300	400	500	800
											242	000	4200	72	220	720	000	1200	1920	120	F00	4000	4000	2000	2000
8	Probable	12	56	120	160	200	320	48	224	480	640	800	1280	12	336	720	960	1200	1920	120	560	1200	1600	2000	3200

As can be seen from the table above, no tree now offers a Zero risk, which we would suggest better reflect the sites which we find ourselves assessing for clients. The only significant differences are that Large and Very Large trees with an Imminent failure score now are recorded as offering a Moderate Risk, which after much consideration, sits a little more comfortably with both our teams and clients.

So, whenever we are assessing trees, the BARMY method will be used and has been designed to offer all those who have responsibility for evaluating and managing trees a means of assessing them for risk in a consistent fashion.

BARMY also assists the user in determining the appropriate response to the level of identified risk, and this includes both works and intermediate control measures. The method multiplies three values together to give a threat category which guides the inspector on an appropriate response to the risk posed.

Failure Score: Identified defects in relation to species/clone history, established failure criteria & time of year are considered.

Target Score: Impact radius of identified defect against potential targets (objects or persons liable to be affected by tree defect), forward visibility available to drivers (Poor Forward Visibility) & whether vehicles are likely to be stationary, e.g., at junctions are all considered. If targets are liable to include unsupervised children &/or the elderly or infirm the score is increased by one category.



Impact Score: Height of fall/momentum & whether e.g., lower branches would impede the agent's descent are considered.

Table 3 – Example of the BARMY calculation method and products

rable 3 - Example of the	
Failure Score)
Likelihood of failure	Score
Imminent	50
Probable/Soon	8
Likely, foreseeable	2
Potentially with time	0.8
Unlikely	0.40

	Target S	core
	Value	Score
	Very High	40
,	High	25
	Medium	20
-	Low	15
	Very Low	7
	Minimal	1.5

	Impact	Score
	Value	Score
	Very Large	10
,	Large	6
	Medium	4
-	Small	1

ĺ			BARMY - Risk Category
	Score Range	Threat Category	Priority, Recommended action & Completion deadline
	4000+	7 – Extreme	Critical - Work to be carried out as soon as practically possible. i.e. <7 days or control access
	2001 - 3999	6 – Serious	Urgent - Work to be carried out as soon i.e within 1 month or control access
=	1000 - 2000	5 - Significant	High – Work to be carried out in the near future i.e. within 3 months or restrict access
	330 - 999	4 - Moderate	Moderate - Work to be carried out in the current season i.e. within 6 months or limit access
	160 - 329	3 – Slight	Low - Work to be carried out before the next inspection i.e. within 18 months
	50 - 159	2 – Minimal	Minor - Works to be carried out If these meet management objectives and if budgets allow
	0 - 49	1 – Insignificant	Minor - Works to be carried out If these meet management objectives and if budgets allow

Unless stated otherwise, the risk assessment assumes the risk is offered over the next year.

Rootplate: Is a representation of the area under a tree that is subject to high loading and is important for tree stability. It is calculated by 4 x Diameter of the Trees stem, as detailed by C. Mattheck in 'The Body Language of Trees'.

Minimum RPA (m) — Root Protection Area: Minimum distance in metres of the position of protective fencing in line with section 4.6 of BS5837:2012. In order to avoid damage to the roots or rooting environment of retained trees, an area equivalent to a circle with a radius 12 times the stem diameter.

Tree Protection Zone (TPZ) (m) – This is an additional distance offset of 2m beyond the RPA, to provide space for growth and to act as a buffer to the RPA fence; essentially, this provides construction access, such as a zone for scaffolding.

Root Protection Area (Radius) (m) - RPA given in metres from the centre of the stem.

Root Protection Area (Area) (m²) – The ideal total area for the RPA given in metres squared.

Buffer Zone — The magenta RPA line offers the minimum root protection area in line with BS5837, the buffer zone offers a 2m zone outside the RPA which should be considered in the project planning phase to include further protection/exclusion to protect potential tree roots and allow future growth. It also provides access/scaffolding space outside the minimum RPA

Preliminary Arboricultural Assessment - This should not be referred to as a specification of Arboricultural Works



Tree Survey Data BS5837



Est	Tag No.	Name	Age	Height (m)	Crown Height (m)	North (m)	South (m)	East (m)	West (m)	Condition	Life Exp (Yrs)	BS5837 Category	Diameter (mm)	Stem No.	Comments	Recommendations	Risk	Rootplate (m)	Root Protection Radius (m)	Root Protection Area (m²)
Est Pos	T1	Common Pear	M	10	2.5	4	5	4	3.5	Fair	20 or more	C1	550	1	Growing as an individual specimen in a lawn. Located next to gragrage out building. Single stem. Adaption on the stem indicated active defence. Poor pruning has allowed decay into unions, brown rot.	Further investigation of stem.	Slight	2.2	6.6	136.87
Est Pos, Est DBH	G2	Norway Maple, Flowering Cherry	EM	10	2	2.5	2.5	2.5	2.5	Fair	20 or more	B2	350	1	Located on neighbouring land. Located next to the boundary. Canopies have been reduced and regrown, some stubby ends with die back and bushy canopies.	No works required.	Insignificant	1.4	4.2	55.42
Est Pos,	Т3	Norway Maple	SM	11	2	3	3	3	3	Fair	20 or more	C2	350	1	Located on neighbouring land. Located next to the boundary close to outbuilding. Canopy has been over pruned significantly. Multiple attachments developing from wounds.	Consider removal and replacement.	Insignificant	1.4	4.2	55.42



Est	Tag No.	Name	Age	Height (m)	Crown Height (m)	North (m)	South (m)	East (m)	West (m)	Condition	Life Exp (Yrs)	BS5837 Category	Diameter (mm)	Stem No.	Comments	Recommendations	Risk	Rootplate (m)	Root Protection Radius (m)	Root Protection Area (m²)
Est Pos,	Т4	Common Beech	M	19	5	6	3	2	7	Good	20 or more	A2	830	1	Located on neighbouring land. Located on boundary. Buttress obscured by lvy. Single stem. Crown distorted due to group pressure. The canopy has been over pruned.	No works required.	Insignificant	3.32	9.96	311.69
Est Pos,	T5	Sycamore	M	18	5	4	4	3	5	Fair	20 or more	B2	760	1	Located on neighbouring land. Located on boundary. Buttress obscured by Ivy. Single stem. Crown distorted due to group pressure. The canopy has been over pruned/topped.	No works required.	Insignificant	3.04	9.12	261.33
Est Pos,	Т6	Common Beech	M	18	5	4	4	3	5	Fair	20 or more	B2	600	1	Located on neighbouring land. Located on boundary. Buttress obscured by Ivy. Single stem. Crown distorted due to group pressure. The canopy has been overpruned/ topped.	No works required.	Insignificant	2.4	7.2	162.88



Est	Tag No.	Name	Age	Height (m)	Crown Height (m)	North (m)	South (m)	East (m)	West (m)	Condition	Life Exp (Yrs)	BS5837 Category	Diameter (mm)	Stem No.	Comments	Recommendations	Risk	Rootplate (m)	Root Protection Radius (m)	Root Protection Area (m²)
Est Pos,	Т7	Scots Pine	М	21	5	3.5	5	5	5	Good	40 or more	A2	750	1	Located on neighbouring land. Located on boundary. Buttress obscured by lvy. A good example with good potential. Good overall vitality.	Not works required.	Insignificant	3	9	254.5
Est Pos,Est DBH	G8	Common Beech	М	19	2	7	7	7	7	Good	40 or more	A2	800	1	Located on neighbouring land. Located next to the boundary. Buttress obscured by Ivy. Canopy has been over pruned significantly. A good broadleaf group with good potential.	No works required.	Insignificant	3.2	9.6	289.57



Arboricultural Impact Assessment Data BS5837



Est	Tag No.	Name	Age	Height (m)	Crown Height (m)	North (m)	South (m)	East (m)	West (m)	Condition	Life Exp (Yrs)	BS5837 Category	Diameter (mm)	Stem No.	Tree Works Required For Scheme	Arboricultural Impacts	Control Measures	Rootplate (m)	Root Protection Radius (m)	Root Protection Area (m²)
Est Pos	T1	Common Pear	М	10	2.5	4	5	4	3.5	Fair	20 or more	C1	550	1	No Works Required For Scheme	No Arboricultural Impact	Protect From Site Changes	2.2	6.6	136.87
Est Pos, Est DBH	G2	Norway Maple, Flowering Cherry	EM	10	2	2.5	2.5	2.5	2.5	Fair	20 or more	B2	350	1	No Works Required For Scheme	No Arboricultural Impact	Protect From Site Changes	1.4	4.2	55.42
Est Pos,	Т3	Norway Maple	SM	11	2	3	3	3	3	Fair	20 or more	C2	350	1	No Works Required For Scheme	No Arboricultural Impact	Protect From Site Changes	1.4	4.2	55.42



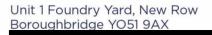
Est	Tag No.	Name	Age	Height (m)	Crown Height (m)	North (m)	South (m)	East (m)	West (m)	Condition	Life Exp (Yrs)	BS5837 Category	Diameter (mm)	Stem No.	Tree Works Required For Scheme	Arboricultural Impacts	Control Measures	Rootplate (m)	Root Protection Radius (m)	Root Protection Area (m²)
Est Pos,	T4	Common Beech	М	19	5	6	3	2	7	Good	20 or more	A2	830	1	No Works Required For Scheme	No Arboricultural Impact	Protect From Site Changes	3.32	9.96	311.69
Est Pos,	T5	Sycamore	M	18	5	4	4	3	5	Fair	20 or more	B2	760	1	No Works Required For Scheme	No Arboricultural Impact	Protect From Site Changes	3.04	9.12	261.33
Est Pos,	T6	Common Beech	М	18	5	4	4	3	5	Fair	20 or more	B2	600	1	No Works Required For Scheme	No Arboricultural Impact	Protect From Site Changes	2.4	7.2	162.88

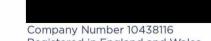


Est	Tag No.	Name	Age	Height (m)	Crown Height (m)	North (m)	South (m)	East (m)	West (m)	Condition	Life Exp (Yrs)	BS5837 Category	Diameter (mm)	Stem No.	Tree Works Required For Scheme	Arboricultural Impacts	Control Measures	Rootplate (m)	Root Protection Radius (m)	Root Protection Area (m²)
Est Pos,	T7	Scots Pine	M	21	5	3.5	5	5	5	Good	40 or more	A2	750	1	No Works Required For Scheme	No Arboricultural Impact	Protect From Site Changes	3	9	254.5
Est Pos, Est DBH	G8	Common Beech	M	19	2	7	7	7	7	Good	40 or more	A2	800	1	No Works Required For Scheme	No Arboricultural Impact	Protect From Site Changes	3.2	9.6	289.57









Registered in England and Wales

TREE SURVEYS

Health & Safety Surveys Risk Assessments Homebuyer (Mortgage and Insurance) Veteran & Venerable Trees Legal & Law (TPO & Valuations)

ADVANCED ASSESSMENTS

Decay & Defect Scans Tree Stability Checks Tree & Plant Health Care Root Detection & Mapping **Aerial Inspections**

PLANNING & DEVELOPMENT

BS5837 Tree Surveys Impact Assessments Method Statements **Planning Conditions CAD Plans (2D & 3D)**

LANDSCAPE ARCHITECTURE

Commercial Landscape Design LVIA (Landscape Visual Impact Assessments) Landscape Management Garden Design Green Infrastructure















