TREE REPORT

In relation to development proposals at:

32 Winchester Road
Swiss Cottage, London
NW3 3NT

CT1/WR-WLA-V2-XX-DR-Y-TSR
29/3/23

Prepared by
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Validation statement

This report contains supporting information to describe trees adjacent to the area proposed for development. For validation purposes, this report includes:

- An assessment of tree and tree group quality in accordance with Table 1 of the British Standard.
- Annexed tree survey plan, giving graphical representation of retained trees relative to existing structures and their calculated canopy spreads and root protection areas.
- Annexed tree constraints plan, showing tree position in relation to proposed structures.

1 Copyright

1.1 The copyright of this document and any appendices remain with Wright Landscape and Arboriculture Ltd. The content and format of this report and any appendices are for the exclusive use of the client and their agents for the purposes of their planning application.

1.2 This report may not be sold, lent, hired or divulged to a third party without the written consent of Wright Landscape and Arboriculture Ltd. Wright Landscape and Arboriculture Ltd terms and conditions apply to this report and all their associated works in conjunction with this project.

2 Qualifications and experience

2.1 Margaret Wright is director of Wright Landscape and Arboriculture Ltd with over 15 years industry experience both as an arboricultural consultant and former Local Authority Tree Officer. Margaret has presented research at a national conference and has been awarded an arboricultural MSc with the University of Central Lancashire.

2.2 Margaret is Bond Solon trained, a former executive committee member of the London Tree Officer's Association and professional member of the Arboricultural Association. Published works, qualifications and details of forthcoming publications provided on request.

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PRELIMINARIES

3 Introduction

3.1 This report provides a description of trees adjacent to the application site. Advice is given with the aim of providing sufficient arboricultural information for the design team to assist their development of the proposal. This report contains:

- **Section 1** - a description of the tree stock and a quantification of arboricultural value. The schedule of trees can be found in appendix i.
- **Section 2** – a description of the impact on trees resulting from development.
- **Annexed documents** – tree survey plan, tree constraints plan.

4 Documents supplied

4.1 In order to assist with the formation of this report, WLA has been provided with the following plans: **CP-2021-69-P, CP-2021069-E, A4446.C100 – Pile Plan, A4446.C102 – LG and UG Floor Plans, A4446.C101 – Foundation Plan.**

5 Statutory designations

5.1 Trees adjacent to the site are protected by the Belsize Park Conservation Area, and under the Town and Country Planning (Tree Preservation) (England) Regulations 2012. Trees subject to protection must not be pruned without prior notification to the Local Planning Authority unless that work is specifically stated within approved documents following grant of full planning permission. For further details, contact Camden Council Planning Department.

6 Caveats

6.1 With regards to the General Data Protection Regulations [GDPR] (EU) 2016/679 in force as of May 2018, Wright Landscape and Arboriculture's records of the site and the management advice contained within this report will be kept for 12 months. Within this 12-month period, data gathered on behalf of the client will not be shared unless the express consent of the client has been given in writing. After that 12-month period, all records will be deleted.

6.2 Birds and bats (including nests and roosts of a temporary nature) are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside Rights of Way act 2000) and under European legislation by the Conservation of

Habitats Regulations 2010. It is therefore essential that any future works to tree are timed considerately to avoid disturbance of any protected species and wherever possible, pruning works should be avoided between February to August (England). Further information is available from the Bat Conservation Trust: 020 7627 2629.

6.3 Predictions on the future growth of trees and significant bodies of vegetation are made on the assumption of average environmental conditions over the next decade in the absence of extreme weather events and unforeseen changes in the availability of soil water. Predictions should be considered with the view that trees may grow considerably more or less dependent on environment.

7 Use of this document

7.1 British Standards are guidelines produced by the British Standards Institute Group, the National Standards body for the UK. British Standards are best practice documents, following formal consensus of opinion from arboricultural industry peer review. British Standard BS 5837:2012 Trees in relation to design, demolition and construction – recommendations [BS5837] provides guidance on the assessment of trees in the context of development and sets minimum standards for protection of retained trees on development sites.

7.2 Recommendations within British Standard documents are not law. However, for planning applications that have the potential to impact trees, the majority of Local Planning Authorities [LPAs] require submission of an arboricultural report compliant with the recommendations of this standard. This report satisfies that requirement.

8 Technical references

8.1 This report is based on the following technical references (where applicable):

- British Standards Institution (2010) BS 3998: Tree works – recommendations.
- British Standards Institution (2012) BS 5837: Trees in relation to design, demolition and construction- recommendations.

9 Site description

9.1 The property is a four storey, end of terrace Georgian building separated into flats. The site borders the rear gardens and car park of listed buildings on Eton Avenue. A total of four trees were surveyed, all of which are offsite.

9.2 The nearest street tree (T4) is over 15m from the property boundary. The root protection areas (RPAs) of early mature lime pollards within the car park of No. 73 Eton Avenue have also been measured remote from the site boundary; these trees and have been discounted as constraints accordingly.

Figure 1; Tree T1 (foreground) and TG2 to the rear.

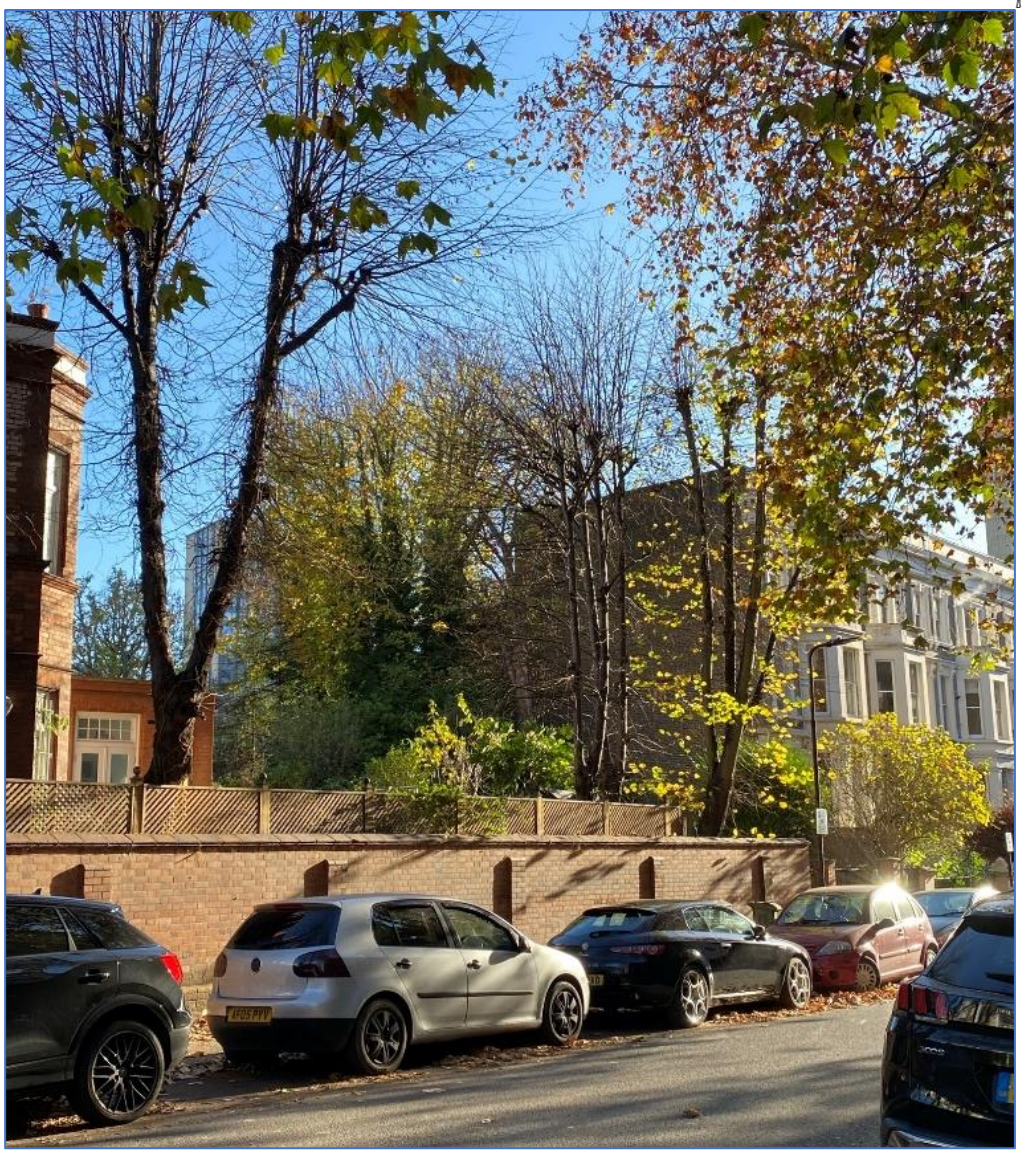

Fig.2: View of trees T1 and TG2 from Winchester Road, with lime group TG3 in the foreground.

10 Tree assessment

10.1 Tree T1 is a mature sycamore (*Acer pseudoplatanus*) growing within the parking area of No 73 Eton Avenue. The tree grows close to the eastern boundary with No 71 Eton Avenue and the southern boundary with 32 Winchester Road. The tree is healthy, showing good and balanced re-growth following pruning approximately four years ago.

10.2 Three trees comprise TG2; two Norway maple (*Acer platanoides*) and one common lime (*Tilia cordata*). The maples are ivy clad and their stem dimensions estimated. However, they appear healthy having recovered equally well from a crown reduction carried out on or around the same time as the sycamore, T1.

10.3 The lime of TG2 appears healthy, though this tree is somewhat remote from the property and within the garden of 69 Eton Avenue.

10.4 Other trees in the area are somewhat less significant: comprising one mature pyracantha shrub within the front garden of No 32 Winchester Road and a group of pollarded early mature limes within the parking area of No 73 Eton Avenue (TG3). The pyracantha has grown into a tree-like form, but it is a shrub with a limited lifespan, nonetheless. The pollarded lime group grows adjacent to the boundary with Winchester Road and is remote from the site; the RPA of these limes are contained within the parking area of the adjacent site.

10.5 An over mature London plane (*Platanus x hispanica*) (T4) is present on the opposite side of the street to the site. However, this tree is over 15m from the property boundary, and even with the recommendation of the Ancient Tree Forum on measurements of RPA this tree would be unaffected by construction activity on the property.

Section 2 - Arboricultural Impact

11 Development appraisal

11.1 This assessment considers all trees within 12m of the proposed development.

11.2 Development consists of a two-storey side extension on pile and beam foundations.

12 Tree constraints

12.1 The data collected on trees forms the basis for calculating above and below ground constraints to development. Above ground constraints would include canopy spread and shading whereas below ground constraints are indicated by the RPA calculated in accordance with BS5837 (fig. 3).

12.2 The RPA as defined by BS5837 is a design tool or (theoretical) model which represents the minimum soil volume to sustain healthy life of a tree. This is detailed as a magenta dashed line on the annexed plans unless below ground constraints have been identified which identify that roots have grown elsewhere, in which case the model RPA is shown as a faded magenta line against the modified alternative.

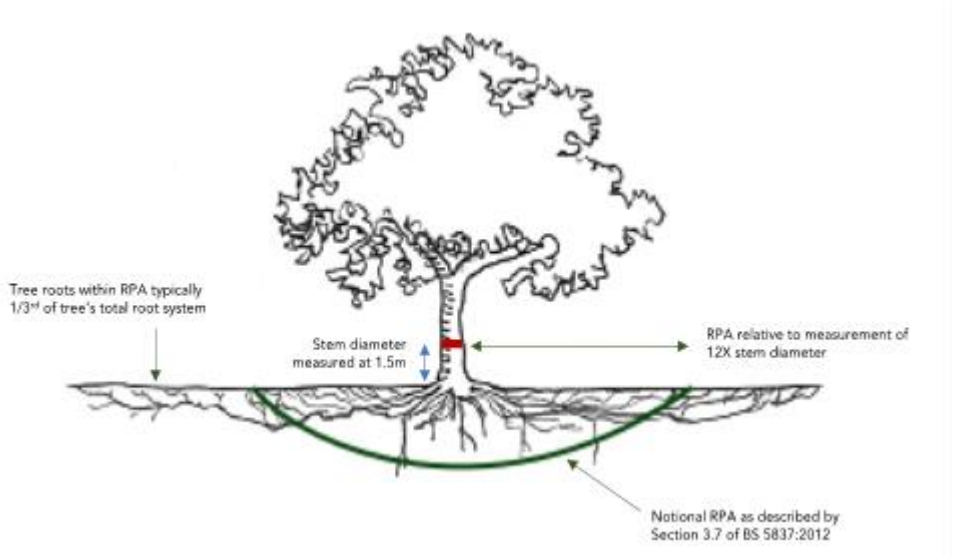

Fig 3; Notional root protection area as described by the British Standard BS 5837:2012

13 Above ground constraints

13.1 The canopies of T1 and the sycamore elements of TG2 grow in close proximity to the existing structure. The canopy clearance is sufficient to allow construction of the extension, however some pruning will be needed to offer clearance between the roofline of the existing building, irrespective of the proposed development.

13.2 In terms of future pressures, the proposed extension will place a new structure within close proximity to the trees. However, this has been considered during design and leaf fall can be managed by gutter guards and regular maintenance.

13.3 The proposal introduces no new windows on the canopy side, so shading would not be an issue. Furthermore, the occupants of the building are accustomed to life in close proximity to the mature trees and the extension should place no additional pressures above and beyond those already present. In any event, future requests for pruning can be managed by the conservation area notification mechanism.

14 Below ground constraints - Trees T2 & TG2

14.1 In January, contractors excavated a 4m long trial pit in the front garden of No. 32 along the northern boundary with the car park. The trench was excavated to 600mm, following notification to the council's planning office and commenced six weeks after that notification was made valid. In order to ensure no tree roots were harmed during excavations, works were supervised by the project arborist.

14.2 The excavations uncovered a historic boundary wall separating the site from the car park. The wall was previously unknown to the design team and no evidence of this wall can be observed from above ground. The wall predates the trees and its sturdy construction has acted as a root barrier, prevented root growth from trespassing onto the site with the exception of a few hairlike feeder roots within the shallow soil above the capping stone layer (fig.4).

14.3 Where hair-like roots have grown, these roots are generally no more than 3mm in diameter. Fine root growth is limited to the shallow soil above the capping stones and these roots were not found to be present in great numbers. The excavations also noted limited spread beyond the boundary line, finding no roots present at

distance from the wall and boundary (fig.5); indicating that the trees are not using the front garden of No. 32 as a resource.

Fig.4; Root bole of T1 shown approx. 200mm below ground level, with gravel board of boundary fence as evidence of site levels. The structural root of T1 can be seen wrapping around a brick pillar.

Fig.5; Trench excavations showing roots running parallel to the boundary above the capping layer. Fine, hair-like feeder roots have grown within this shallow soil but are not present within the soil in great numbers.

14.4 Owing to the presence of this wall and the absence of significant root growth beyond it, construction of foundations within the curtilage of No. 32 would therefore have no effect on the structural roots of T1 or the closest affected elements of TG2.

14.5 In terms of the existing and future capacity for trees to use the garden of No. 32 for water/resources etc, the project engineer has designed pile and beam foundations which will allow fine roots of the trees to exploit the soil under the

foundations of the extension without impediment, should any grow over the boundary in the future.

14.6 Given the size and limited number of fine roots in existence along the boundary, excavations for the construction of the ground beam and piles would have no significant effect on the presence of these roots or their capacity for recovery. I see no sound arboricultural reasons why these roots would not recover within a growing season, and I see no reason why construction of a concrete beam along the boundary would have any significant effect on the health of the root systems of retained trees as it is clear that the root systems are biased towards the gardens to the north.

14.7 Excavations for beam placement would have no effect on the roots or root bole of T1, as the design places these structures stepped back from the boundary to allow sufficient clearance. As such, I am satisfied that the roots of T1 and trees within TG2 will not be affected by the placement of foundations or foundation beams as proposed. The trial pits show tree roots have not trespassed and so there is no evidence before me to indicate that the health of the trees will be affected by the proposal.

15 Tree protection and mitigation

15.1 Whilst I am satisfied that there are no significant roots present within the garden of No. 32, we cannot discount the possibility that roots will grow beyond the capping layer in the future. BS 5837 considers ground protection systems to prevent compaction of the soil. Such measures would retain that soil environment as suitable for the future growth of roots and I am satisfied that these measures would be feasible and practicable to install and maintain throughout the course of development.

15.2 Should the council harbour any remaining concerns, pile foundations and beams can feasibly be installed under arboricultural supervision, and a system of tree protection monitoring, secured by condition, would ensure best practice and ongoing protection of trees.

16 Summary

- The trial pit found only a few hairlike roots close to the boundary, therefore placement of a foundation beam would not affect the health or structural integrity of retained trees.
- The foundation design accommodates for the future growth of roots and allows trespass of feeder roots by use of pile and ground beam.
- Pruning of T1 and the sycamores of TG2 will be required irrespective of development proposals, owing to the presence of the existing structure.
- Pruning specified here is within the limits of arboricultural best practice and would be tolerated by the species without significant harm to their health or effect on their overall appearance and shape.
- The proposal is unlikely to lead to any detriment to tree health or the long-term contribution of the trees to the character and appearance of the area.
- Construction methods and monitoring in accordance with BS 5837 is feasible and could be secured with a tree protection plan and condition.

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Appendix i TREE REPORT – TREE SCHEDULE

32 Winchester Road

Survey date: January 2023

Surveyed by: MW

Tree number	Species (common/botanical)	Number of stems	Stem diameter (mm)	Height (nearest m >10m)	Crown spread (m)	Crown clearance (m)	Life stage	SULE	Vigour	Condition		Category	Observations	RPA radius (m)	RPA Area (m2)
										Structural	Physiological				
T1	Sycamore/*Acer pseudoplatanus*	1	660	15	3	6	M	40-80	N	G	G	B1	Previously reduced offsite tree. Tree responding to pruning with healthy growth over a balanced crown	7.9	196
TG2	Mixed group; 2 x Norway maple/*Acer platanoides* and 1 x common lime/*Tilia cordata*	3	600e	16-18	3	3	M	40-80	N	G	G	B1 (maples), A1 (lime)	Norway maples have been reduced (approximately same timeframe as sycamore T1). Both trees have responded well and appear healthy. Branches in contact with flank wall of No 32. Offsite trees with ivy clad stems	7.2	163
TG3	Lime/*Tilia x europaea*	3	300e	14	2	3	M	40-80	N	G	G	B1	Offsite trees, dimensions collected with laser however, base of trees not inspected for defects	3.6	70
T4	London Plane/*Platanus x hispanica*	1	110	20	6	5	M/OM	40-80	N	G	G	A1	Victorian planting, good quality specimen, classic of the period	12	452

Appendix ii TREE REPORT – TREE SCHEDULE EXPLANATORY NOTES

- **Tree number**: Individual trees referred to by a 'T' prefix, i.e., T1, T2 etc. Collections or groups of trees referred to as 'TG' to denote presence of a group rather than as an individual tree. 'H' prefix denotes a hedge. W'' denotes woodland block, 'A' denotes area. Trees numbered for reference. Trees with pre-existing survey tags have tagged numbers listed italicised in [*brackets*].
- **Species**: Species listed by common name. Where name is followed by the abbreviation *ssp*. or *cv*. the sub-species or cultivar is undetermined.
- **Trunk diameter**: Measured in millimetres, at 1.5m from ground level. Measurements are taken with a calibrated stem diameter tape or laser sight where access is restricted. Where access to measure the trunk is impossible, for example the tree is on adjacent property, a laser sight measure is used, or trunk diameter measurements are estimated.
- **Height**: Measurement of tree height given to the nearest meter. May be derived by compensating lines of sight or approximated, based on best available evidence to hand.
- **Crown spread**: Crown/canopy spread typically given to the nearest meter or half meter, measured from the face of the trunk to the tips of live branches. Measures towards cardinal points unless otherwise stated and typically measured with a laser range finder. May be paced or estimated, if access is restricted.
- **Crown clearance**: Measured or estimated in metres, gives height of clear stem before first branch break.
- **Life stage**: Young/trees up to 10 years of age = Y, early-mature/trees exceeding 1/3rd life expectancy = EM, mature/maturing trees between exceeding 2/3rds life expectancy = M, over mature/beyond life expectancy, declining and aged trees of low vigour = OM, veteran/trees possessing certain attributes relating to veteran trees = V, ancient/notable specimens of national importance given their age and history = VA. Age is estimated from visual indicators of growth and experience of tree growth rates and should only be taken as an estimated or provisional guide as tree growth is largely dependent on the availability and historic availability of soil and water resource.
- **SULE**: **Safe useful life expectancy.** No. remaining years life (estimated) based on condition and species.

- **Structural condition**: An assessment of the general condition of the tree as a biomechanical structure, considering (but not limited to) the presence and significance of decay pathogens, fibre buckling, broken branches, splits and cracks within the main stem or scaffold limbs etc. Trees are graded Dead [D], Poor [P], Fair [F], Moderate [M], Good [G], or Excellent [E]. Trees in poor condition are described as trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term. Trees in fair condition are considered as having minor defects or in the early stages of decline. Moderate condition relates to trees with few remedial defects or likely to recover from structural weakness. Trees in good condition are considered to be trees with few minor defects and good overall health. Trees listed as excellent are considered to be outstanding specimens or prime examples of their species.
- **Physiological condition**: An assessment of the general condition of the tree considering (but not limited to) vigour, extension growth, crown density, and presence of pathogens. Trees are graded Dead [D], Poor [P], Fair [F], Moderate [M], Good [G], or Excellent [E]. Trees in poor condition are described as trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term. Trees in fair condition are considered as having minor defects or in the early stages of decline. Moderate condition relates to trees with few remedial defects or likely to recover from structural weakness. Trees in good condition are considered to be trees with few minor defects and good overall health. Trees listed as excellent are considered to be outstanding specimens or prime examples of their species.
- **Preliminary management recommendations**: Recommendations for urgent tree works based on the tree's condition and an assessment of its risk to current surroundings. Preliminary recommendations for work do not exceed the client's duty should the tree/s listed be protected by TPO, Conservation area, felling licence, grant program, or legal covenant.
- **RPA**: Measurement of root protection area (radius) to nearest 10mm, as defined by BS 5837:2012 Trees in relation to design, demolition and construction – recommendations.

Appendix iii TREE REPORT – CASCADE CHART FOR TREE QUALITY ASSESSMENT

(Extracted from British Standard BS 5837:2012 Table 1)

Table 1 **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 expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
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)	See Table 2
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	See Table 2
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	See Table 2