
**22 LUCASTES AVENUE, HAYWARDS HEATH,
WEST SUSSEX, RH16 1JX**

**TREE SURVEY, ARBORICULTURAL IMPACT
ASSESSMENT & TREE CONSTRAINTS PLAN**

FOR

REPLACEMENT OF EXISTING REAR EXTENSION

Prepared by:

WHLandscape

On behalf of:

Shane Woodroffe

Project Reference: 25.1996

Revision:

JUNE 2025

APPOINTMENT

WH Landscape Consultancy Ltd (WHLandscape) has been appointed by Shane Woodroffe to undertake a Tree Survey and to prepare an Arboricultural Impact Assessment (AIA) and Tree Constraints Plan (TCP) to support the proposal to replace an existing rear extension at 22 Lucastes Avenue, Haywards Heath, West Sussex, RH16 1JX.

WHLandscape has an established track record of carrying out Tree Surveys for development proposals using British Standard (BS) 5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*.

This report has been undertaken by: Seb Macleod NC Hort/Arb. L6 Dip Arb. (Lantra Professional Tree Inspection)

Checked by: Will Harley BSc (Hons) CMLI

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1. INTRODUCTION

1.1. WHLandscape has been instructed by Shane Woodroffe to conduct a Tree Survey, an AIA and to provide a TCP. These will support the proposed replacement of an existing conservatory structure at 22 Lucastes Avenue, Haywards Heath. The survey is to outline any constraints that the trees on the site pose to its development, and indicate measures required to protect those trees to be retained during the construction process. The report conforms to the guidance set out in BS 5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*.

1.2 This initial arboricultural report includes a survey of the significant trees (those with stem diameter 150mm, measured at 1.50m above ground level), hedges or groups of trees currently found on the site (outlined by the plan provided). The quality and condition of these trees is to be assessed and categorised. Any management recommendations deemed necessary are to be put forward.

1.3 The trees surveyed are to be categorised A, B or C, for those to be considered for retention, or U for those unsuitable for retention. Further sub-categories of 1, 2 or 3 are given for those to be considered for retention (see Cascade chart for tree quality assessment in Appendix 3). Categorisation will be made in accordance with BS 5837:2012.

1.4 A TCP guided by the above and the below ground constraints that the surveyed trees on site may pose to the development proposal, is provided in Illustrative material at plan ARB-1996-01. The key constraints to be considered will include the Root Protection Areas (RPA) and Construction Exclusion Zones (CEZ) that trees will require to be protected by during construction if they are to be retained, as well as the current ground clearance and spread, that may affect the design proposal and construction access.

1.5 The report includes an AIA to outline and mitigate the potentially adverse tree related impacts that the design proposal poses and to suggest any changes that may benefit the scheme.

1.6 The residential site under assessment consists of the dwelling located centrally within the property accessed from the highway, Lucastes Avenue, on the south-western boundary. The rear of the property, accessed via narrow passageways on the north-western and south-eastern side of the house includes the existing conservatory which is the focus of the development proposal. The arboricultural features at the property are dominated by two mature beech which straddle the driveway entering the site from Lucastes Avenue and a row of mature limes which stand beyond the rear garden

boundary of the site. A number of ornamental tree species stand near the boundaries of the front and rear gardens, which are bordered by hedging on the north-western aspect and surrounding the rear garden.

1.7 The proposal is to remove the existing conservatory located at the rear of the dwelling and construct a replacement on a similar footprint. A plan of the proposed layout of the scheme has been provided by James Wells Architects (drawing no. 677 103 A) and has been overlaid onto the TCP provided in Illustrative Material at plan ARB-1996-02 (Design Overlaid).

1.8 The soil type for the site is described as 'Slightly acid loamy and clayey soils with impeded drainage'. Therefore, the site could be on a shrinkable clay with the potential for subsidence damage to be caused, by trees, to new structures. It is recommended that a soil survey of the site is undertaken to establish the exact nature of the soil type.

1.9 The area proposed for development is within the Lucastes Conservation Area. No trees on the site are subject to Tree Preservation Orders.

1.10 A site visit was undertaken on the 3rd of June 2025 by Seb Macleod in fair weather conditions.

2. CONSTRAINTS TO PROPOSED DEVELOPMENT

2.1 GENERAL

2.1.1 The trees surveyed represent above and below ground constraints to the proposed development. Above ground constraints include the size and nature of the branching canopy that can influence where structures/utilities can be placed, or that present barriers to access during or after construction. Shade cast by individual trees can be beneficial or a nuisance and needs to be considered. In addition, the potential ultimate height and spread of any younger trees on site, and the future impacts they may have, must also be a consideration.

2.1.2 Below ground constraints are principally concerned with the RPA, or the rooting area, of an individual tree that must be maintained in its current condition (i.e. not excavated, compacted or re-graded) to ensure the continuing health of the tree during and after development. Roots that are 25mm or over must not be damaged, in order to ensure the future structural and physiological function of the tree.

2.1.3 New buildings should not be positioned within the RPA of a tree to be retained. No ground should be disturbed, materials stored, or vehicle/pedestrian traffic undertaken within the RPA of a retained tree. It is also the default position that construction access must be outside the RPA of any tree to be retained on site. Above and below ground constraints can be mitigated by felling, or pruning, if justified in the impact assessment. Incursion of works into the RPA of a tree to be retained can be facilitated by special construction techniques, if justified in the impact assessment.

2.1.4 The RPAs are calculated as per Section 4.6 of BS 5837:2012 and, where applicable, are recorded as an area of a nominal circle or a radius of that circle. The British Standard states the following:

- For single-stem trees, the RPA is calculated as an area equivalent to a circle with a radius 12 times the stem diameter.
- For trees with more than one stem, one of two calculation methods is to be used:
- For trees with two to five stems:

$$\sqrt{(stem\ diameter\ 1)^2 + (stem\ diameter\ 2)^2 \dots + (stem\ diameter\ 5)^2}$$

- For trees with more than five stems:

$$\sqrt{(mean\ stem\ diameter\ 1)^2 \times number\ of\ stems}$$

2.1.5 In all cases, the stem diameters are measured in accordance with Annex C of BS 5837:2012, and the RPA is determined from Annex D. The RPA is capped at 707 metres (m) squared or a 15m radius.

2.1.6 Where trees are positioned close to adjacent areas of hardstanding, which are impervious to air and water, and where tree roots are unlikely to ingress, the RPA may be off set from the centre of the tree to reflect the areas where the roots are more likely to have established.

2.1.7 RPAs for hedges will normally be set at a distance from the central base of the hedge calculated as half its average height.

2.2 OTHER CONSTRAINTS

2.2.1 Potential constraints to the development of the site include the above ground area occupied by the crowns of the trees, potential shade and debris cast by the trees, working space during development and, if applicable, allowances for future growth of the trees. The extent of these constraints is determined by considering the suitability of the species and its characteristics within the context of the proposed development, plus the existing and future crown spread of the tree. A further consideration is that the crown could be modified by appropriate tree surgery. Site planning and development design must therefore give consideration to these issues in order to prevent future problems arising.

2.2.2 Any remedial works on trees to improve safety or to facilitate construction must be undertaken in accordance with BS 3998:2010 British Standard *Tree Work - Recommendations*. Work must be undertaken by qualified and experienced professionals.

2.2.3 All services should be directed outside the retained trees' RPAs. However, where it is agreed that services can be located within a RPA, they must be hand-dug in accordance with the principles contained within National Joint Utilities Group Guidelines Vol. 4, in a position no closer than four times the stem circumference of the tree and dug down to the required level. Small diameter roots should be neatly cut with clean secateurs, whilst roots over 25mm in diameter, and/or large root masses, must be retained undamaged. Alternatively, if underground services are to run through the RPAs of trees to be retained, specialist construction techniques, such as impact moling, could be employed to install any pipework at a depth greater than 600mm from ground level, where tree roots are unlikely to be found.

2.2.4 No unplanned construction activity whatsoever must be allowed within the RPAs of trees to be retained. This includes storage of materials, unplanned routing of underground services or incursions by vehicles or site operatives unless specified and accompanied by specialist protection measures.

2.2.5 Mixing of cement or concrete, or the storage of fuels must not take place within 10m of the retained trees, nor in any location where a slope in the ground could lead to contamination of the RPA of any tree to be retained.

2.2.6 Fires must not be lit in a position where flames could extend to within 15m of the foliage, branch framework or trunk of any tree to be retained.

2.2.7 Landscape works undertaken within the RPAs must be done so as not to damage shallow roots and are to be agreed by the arboricultural consultant. Heavy mechanical cultivation of the soil must not be undertaken within the RPAs of trees to be retained.

2.2.8 Changes in soil level should not be undertaken within the RPAs of retained trees, unless otherwise agreed in writing with the Local Planning Authority (LPA). This is in order to ensure that the rooting systems, including the delicate non-woody roots, are not inadvertently severed or the roots and rooting zones are not compromised by compaction.

2.3 TREE PROTECTION MEASURES

2.3.1 Tree protection fencing will be required to form a CEZ, to prevent construction activity within the RPAs of trees to be retained, or to protect the crowns of retained trees. This must be constructed from weldmesh panels of at least 2m height and securely fixed with wire or scaffold clamps fixed to a rigid framework. This framework must be constructed from horizontal and vertical scaffold tubes during the construction period, in accordance with the requirements of BS 5837:2012. Examples of the design specification are shown in Appendices 1 & 2.

2.3.2 Where tree protection fencing falls outside the RPAs of the retained trees, robust high visibility plastic mesh barrier is recommended in place of the above-mentioned fencing. This will create a visual deterrent and signify the extent of the CEZ.

2.3.3 The location of CEZ fencing will be determined when the final site layout is agreed. This will provide the minimum protection of the retained trees. Any surfacing within the RPA, be it temporary or permanent, must be of a no-dig design in accordance with the principles of BS 5837:2012.

2.3.4 After the erection of the CEZ fencing a minimum of two days' notice must be given to the LPA before any construction, including any groundwork, starts on site. The CEZ fencing must be maintained and retained for the duration of the works or until such time as agreed in writing with the LPA.

2.3.5 Services and drain runs must be kept outside the fenced RPA of the retained trees unless agreed in advance of construction.

2.4 ARBORICULTURAL SUPERVISION

2.4.1 A suitably qualified arboriculturist must be retained during the development period to carry out the following:

- To inspect tree protection fencing once erected prior to construction or ground works starting on site.
- To advise of any issues at the request of the LPA, the property owner or contractor as necessary.

2.4.2 The details of each visit are to be recorded in a site visit pro-forma, with copies circulated to the contractor, developer and the LPA Tree Officer.

3. TREE SURVEY

3.1 TREE SURVEY CRITERIA

3.1.1 This tree survey has been undertaken in accordance with BS 5837:2012 in order to establish and record:

- The principal attributes of those trees on site of stem diameter over 150mm measured at 1.50m from ground level (such as height, stem diameter, height of first branch break, crown spread, crown clearance).
- The Condition, Quality and Value of the trees on site.
- The retention value of those trees as categorised by BS 5837:2012.
- The outline and area of RPA required for those trees to be retained on site, and any other remedial works necessary to ensure a reasonable level of safety; or to facilitate the development in accordance with conditions set out in BS 5837:2012.

3.1.2 The findings of the survey highlight which trees are of particular merit and should be marked as a material constraint in the planning process.

3.1.3 The suitability of trees for inclusion in the proposed development is considered, with particular regard given to their safe, useful life expectancy, and suitability in the site after development is completed.

3.1.4 The Tree Survey was undertaken in accordance with Section 4 of BS 5837:2012, which grades trees into the following categories (See Appendix 3: Cascade chart for Tree Quality assessment):

- A – Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- C – Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.
- U – Trees in such a condition that they cannot be realistically retained due to poor condition.

Further subcategories are given as follows:

- Mainly arboricultural qualities (1).
- Mainly landscape qualities (2).
- Mainly cultural values, including conservation (3).

3.2 SURVEY LIMITATIONS

3.2.1 This survey was undertaken from ground level using visual assessment techniques only. Physical assessment of suspected decay has been limited to probing with metal rods or sounding with a hammer. No specialist decay equipment or internal investigation tools have been employed during the assessment. No soil samples have been taken in the course of this assessment.

3.2.2 The observations and recommendations presented are based on the knowledge, qualifications and experience of the surveyor only.

3.2.3 All dimensions are measured as far as reasonably practicable, with the plotting of tree locations dependent on the topographical survey provided, or the available satellite coverage at the time of inspection. Stem diameter may have been estimated where trees are on third party land or where stems are inaccessible due to obstructions by undergrowth. Stem diameter may also have been estimated from best measurements available if the tree is ivy clad. The survey methodology follows that prescribed in BS 5837:2012.

3.2.4 Trees are dynamic evolving organisms subject to a range of external influencing factors (particularly the weather) the consequences of which may not always be foreseeable under the scope of this survey.

3.2.5 This survey will be valid for 12 months from the date of inspection and may become invalid within this period if any works are undertaken on or near to trees assessed in the survey. Such works include un-prescribed tree surgery, soil level changes, trenching etc.

3.2.6 Under the terms of the Wildlife and Countryside Act 1981 (as amended), the Countryside Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, it is an offence to disturb any protected species, including their habitat or resting place. It may, therefore, be necessary to obtain expert advice in this area prior to the commencement of any works. This is particularly relevant to nesting birds, bats and their roosts. Contractors must be reminded of their responsibilities and should contact the relevant authorities if any signs of bats are found.

3.2.7 The nesting season for most birds runs from 1st March to 31st July. However, this can vary depending on the species and location. During these months, careful inspection must be made before any work commences and works must be postponed if active nests are found.

3.2.8 Trees with a Tree Preservation Order or those sited in a conservation area are protected under section 198 and 211 (1) of the Town and Country Planning Act 1990. Consent from the LPA must be sought before any works are to be undertaken on such trees, unless the proposed works to protected trees were included in an application and are a necessary consequence of granted full planning consent.

4. TREE SURVEY FINDINGS

4.1 Altogether ten individual trees and three hedgerows were assessed and appear in the survey schedule (Table 2). Smaller trees or shrubs within the proposed development area have not been included in the survey schedule as they were too small to be considered as arboricultural features that could pose a constraint to the scheme.

4.2 Several trees (those in group G1 & T10) assessed were located outside the site on adjacent land but were included in the survey schedule as their RPAs potentially cross the sites boundary and therefore could pose a constraint to the development proposals. As these features were not directly assessable and behind boundary fencing/hedgerow their values (including stem diameters on which RPA radii are calculated) have been estimated and some features such as lower stems were not able to be visually assessed.

4.3 The arboricultural character of the site itself is dominated by two mature beech (T1 & T2) which straddle the driveway as it enters the front of the property from Lucastes Avenue. Both trees, of which T1 is a copper beech, are of similar size and age class and are considered as high quality amenity features and are assessed as A grade retention category. Other trees of note that are included in the survey schedule include a row of mature limes which stand beyond the boundary of the rear garden within a small woodland area. Three of these limes closest to the boundary of the site have been assessed as group G1, and as prominent features of the surrounding area, all within the group are assessed as A grade retention category.

4.4 The remaining trees within the site (T3-T9) and a pittosporum T10 within the adjacent rear garden to the east were composed of ornamental species of relatively limited stature. Several of these trees had been subjected to heavy pruning of their upper crown structures and were showing a stress response of epicormic reaction grown as a response to create sufficient foliage to regain energy gathering capacity. These trees were either assessed as good quality B grade retention category or in the case of the smaller/younger specimens or those which had been over-pruned, C grade retention category.

4.5 Three boundary hedgerow features were included in the survey schedule and include H1, a mixed hedgerow of beech, hazel, holly, privet and yew extending along the extent of the north-western boundary. H2 consists of a copper beech hedge along the rear boundary of the property and a holly hedge (H3) runs along the south-eastern extent of the rear boundary. As important wildlife

habitat/conservation features, all three hedges are assessed as good quality B grade retention category.

4.6 No trees or hedgerow features assessed are in direct conflict with any aspect of the proposed alterations to the rear of the dwelling at 22 Lucates Avenue including their underground features, namely their RPAs.

5. TREE SURVEY CONCLUSIONS/RECOMMENDATIONS

5.1 The trees and hedges assessed are largely of good or high quality in the A and B retention category, with the only trees assessed as in the lower C grade being due to their limited size or poor form resulting from heavy pruning practice. Therefore, all trees and hedgerows assessed are suitable for retention through and beyond the development proposals. The scheme provided intends to retain all arboricultural features found at the site.

5.2 All trees and hedgerow are to be retained through and beyond the development process but are potentially threatened by unintentional damage during construction activity via inadvertent excavation within their RPAs, or more likely through potential ground compaction within their RPAs. This could be via the passage of site operatives (particularly during very wet weather) or vehicles or plant operating/parking within RPAs causing ground compaction which can inhibit the availability of oxygen to the roots of trees within their RPAs. Such ground compaction could lead to physiological decline or premature death of the affected tree. Other potential damage during construction could be caused through stems or crowns being struck during construction, storage of materials or locating site cabins within RPAs causing compaction or ground contamination via the mixing of materials within tree RPAs.

5.3 Areas of existing hardstanding, as marked by grey hatch on the TCP at plan ARB-1996-02, will offer protection to the roots of trees within their RPAs below from compaction by the passage of operatives, vehicles or plant. Therefore, these areas can be utilised during the development process. A low retaining wall which runs along the south-eastern extent of the driveway to the front of the house is considered as a sufficient barrier to inhibit the potential for development activity impacting the area within the RPA of the beech T1 beyond.

5.4 In order to protect the sensitive features of the trees to be retained which are potentially threatened by the construction process at the site, CEZs would need to be established, protected by CEZ fencing before all other construction activity commences. This will ensure their critical features including RPAs are not inadvertently damaged during the construction process, particularly through ground compaction by the passage of vehicles or plant, storage of materials or via ground contamination. The proposed positions of the CEZ fencing to be established at the outset of the development process is marked as blue dashed lines in the TCP provided at plan ARB-1996-02 and should be of the specification of fencing exemplified in Appendix 1.

6. ARBORICULTURAL IMPACT ASSESSMENT

6.1 The calculated RPAs of trees that are marked for retention are highly sensitive. The ground within the RPAs can be easily damaged by construction activity, with potentially negative impacts for those trees concerned. The severance of roots within the RPA of a tree has the impact of reducing its physiological function in terms of its ability to store energy, as well as draw water and nutrients from the soil to the effect that severe dysfunction or death of the tree can result. The removal of larger roots within the RPA can have the impact of reducing the structural integrity of the tree, leaving it exposed to failure during adverse weather conditions. The wounding resulting from the severance of roots can offer tree pathogens entry points for infection, which can cause dysfunction, loss of structural integrity or death.

6.2 Roots require access to oxygen and water in order to respire, as well as providing the rest of the tree with water and nutrients. Compaction of the soil will reduce this function to the effect that severe dysfunction or premature death of the tree can result. Installation of a non-porous hard-standing area within the RPA of a tree will have the same impact as compaction of the soil. Contamination of the soil from substances such as cement, fuel or chemicals, can have severe negative impacts on the physiological function of the root system in terms of its ability to store energy. It can also affect the drawing of water and nutrients from the soil, which can lead to physiological dysfunction, loss of structural integrity or premature death of the tree.

6.3 The stems and branching structure of trees are important to their physiological and structural function. The pruning of trees has the impact of reducing their ability to store energy, maintain their physiological system, and photosynthesise, which requires energy from the sun. This can lead to a loss of physiological function, expose the tree to pathogens and potentially lead to decline or premature death. The wounding resulting from the removal of branches can offer tree pathogens entry points of infection. A tree can be unbalanced by excessive pruning on one side, which can leave it exposed to new stresses and lead to failure during adverse weather (the removal of adjacent trees can have the same effect). The inadvertent damage of the stem and branching structure that may be a consequence of construction activity, has similar potentially negative impacts to pruning.

6.4 There are no trees or hedges proposed to be removed as a consequence of the development proposals which limits the potential negative arboricultural impact of the scheme. The retention of the existing arboricultural features is considered an important aspect of an approach to minimise the negative effects of the proposed development.

6.5 There exists the potential for inadvertent damage to be inflicted on the trees to be retained through the construction process which would bring negative arboricultural impacts. However, if the recommended protective measures are followed, specifically the establishment of fenced construction exclusion zones as shown on the TCP at plan ARB-1996-02 then the potential for such damage to be inflicted should be negligible.

6.6 The current or ultimate shading profile of those trees assessed are not, nor will they become, a constraint to the proposed use of the site by excessive shading.

6.7 Overall, there are no significant negative arboricultural impacts of the proposed scheme as all trees suitable for retention are proposed to be retained.

7. REFERENCES

British Standards Institute, 2012. *BS 5837:2012 – Trees in relation to design, demolition and construction. Recommendations*. Online: BSI.

British Standards Institute, 2010. *BS 3998:2010 – Trees work. Recommendations*. Online: BSI.

Ben Rose – Arboricultural Association, 2020. *Arboricultural Guidance Note 12 – The use of cellular confinement systems near trees: A guide to good practice*. Available at:

<https://www.trees.org.uk/Trees.org.uk/media/Trees-org.uk/Misc%20images/Bookshop/AA_GuidanceNote12_CellularConfinementSystems-Web.pdf>

National Joint Utilities Group, 2007. NJUG vol.4 *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*. Available at: <<http://streetworks.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf>>

Soilscapes, 2025. Soilscapes Map. Available at: <<http://www.landis.org.uk/soilscapes/>>

TABLES

Table 1 Tree Survey Key and Schedule

Tree/Tag No: Individual trees will be denoted as T1, T2 etc. on plans or diagrams. Groups of trees too numerous to individually survey or groups comprising of mainly trees of a stem diameter less than 150mm will be denoted as G1, G2 or W1, W2, etc. Hedgerows will also be shown as groups denoted as H1, H2, etc. Tree stumps denoted by S. Individual trees located in a group or hedgerow can still be assessed individually.

Species: using common and scientific name.

Measurement Conventions:

1. Height, crown spread, and crown clearance is recorded to the nearest half metre (crown spread is rounded up) for measurements up to 10m and to the nearest whole metre if over 10m.
2. Stem diameter is recorded in millimetres rounded to the nearest 10mm.
3. Any estimated dimensions (e.g. for inaccessible trees or those located on adjacent land) are suffixed by "#".

Tree height measured using an electronic clinometer. Site conditions may render this technique impractical in which case an estimated height will be suffixed by "#".

Stem Diameter: normally measured at 1.5m from ground level or using techniques as stated in Annex C of BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations*. If estimated denoted by #.

Ivy clad trees will be noted as without removing the ivy a stem diameter will have to be estimated from best measurement available.

Age Class: Y - a young tree in first third of life cycle.

EM - an early mature tree in second third of life cycle.

M - a mature tree in the last third of its life cycle.

OM - an over-mature tree in decline due to age.

Physiological Condition:

Good (G) - tree appears to be in a satisfactory physiological condition showing no signs of poor health.

Fair (F) - may be showing some minor signs of stress.

Poor (P) - slightly compromised showing significant signs of stress i.e. crown retrenchment.

V. Poor (VP) - significantly compromised e.g. advanced retrenchment.

D - dead.

Structural Condition: (Crown, stem and base of tree each given a value)

Good (G) - tree appears to be in a satisfactory structural condition with no significant defects found.

Fair (F) - some defects, but of low significance.

Poor (P) - slightly compromised e.g. poor branch unions found or evidence of decay.

V. Poor (VP) - profoundly compromised and imminent failure likely.

- cannot be assessed due to ivy/vegetation cover.

D/W - deadwood.

Estimated Remaining Contribution: Measured in years: <10 (under 10 years), >10 (over 10 years), >20, >40.

Retention Category: Denoted as U, A, B, C with sub-categories 1, 2, 3. as defined in Table 1 of BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations*.

Root Protection Area (RPA): Radius given in m. Area given in m².

Table 2 BS5837 Survey Schedule

Site: 22 Lucastes Avenue, Haywards Heath

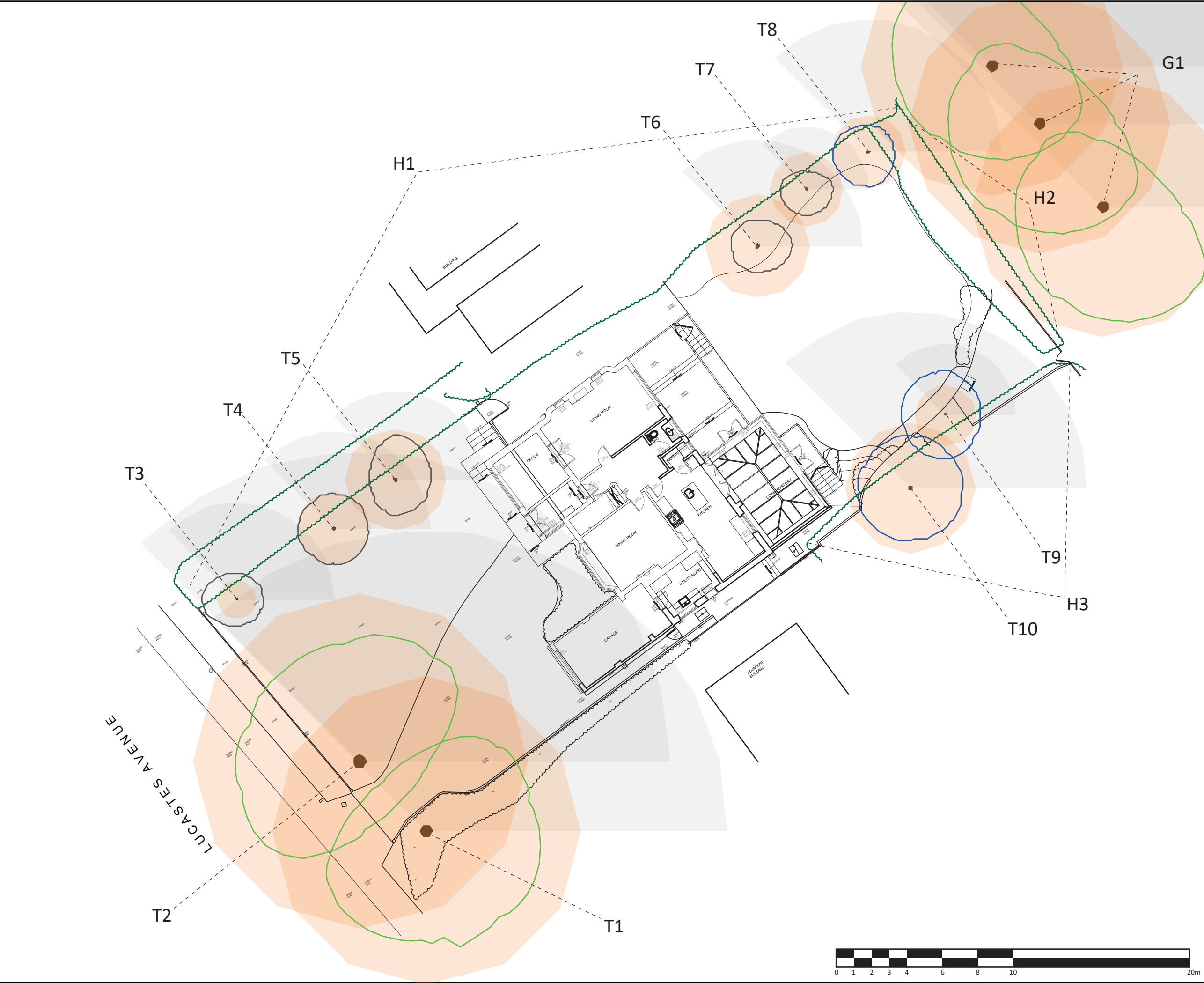
Client: Shane Woodroffe

Date: 3rd June 2025

Tree/Tag. No	Species	Tree Height (m)	Stem Diameter (mm)	Crown spread (m)				Height & Direction of 1 st Branch	Min. Crown Clearance (m)				Life Stage	Physiological Condition	Structural Condition: CROWN/STEM/BASE General Observations: Preliminary Management Recommendations	Estimated Remaining Contribution	Retention Category	RPA R (m)	RPA A (m ²)
				N	E	S	W		N	E	S	W							
T1	Copper beech <i>Fagus sylvatica</i> 'Purpurea'	17	710	6	7	7	3.5	1.5s	3.5	3	3.5	6	M	G	G/F/G Occasional crossing/rubbing branch in central crown structure	>40	A1	8.4	22
T2	Beech <i>Fagus sylvatica</i>	17.5	770	8	3.5	6.5	6.5	2n	2.5	10	4	3.5	M	G	G/F/G Occasional crossing/rubbing branch in central crown structure Codominant break of stems at 4m	>40	A1	9.3	272
T3	Southern magnolia <i>Magnolia grandiflora</i>	5.5	90	1.5	1.5	1.5	2	-	2	2	2	2	Y	G	G/G/G	>40	C3	1.2	5
T4	Japanese camelia <i>Camellia japonica</i>	5.5	120 120	2	2	2	2	-	1.5	1.5	1.5	2	EM	G	G/G/G	>20	C3	2.1	14
T5	Cucumber tree <i>Magnolia acuminata</i>	5	170 160	2.5	2	2	1.5	0.5e	2	2	2	2	EM	P	G/F/G Over pruned crown showing stress reaction growth Crossing/rubbing lower stem structure	>10	C3	3.0	28
H1	Mixed hedge	2	-	-	-	-	-	-	-	-	-	-	EM	G	G/G/G Mixed native and ornamental hedge containing: Beech Hazel Holly Privet Yew	>40	B3	-	-
T6	Whitebeam <i>Sorbus aria</i>	6	240	1.5	2	1.5	1.5	1.5e	2	1.5	1.5	1.5	EM	F	G/F/G Over pruned crown showing stress reaction growth	>20	C1	3.0	28

T7	Cherry Spp. <i>Prunus</i> Spp.	3.5	170	1	1.5	1.5	1.5	1.5w	3	2	2	3	Y	F	G/F/G Over pruned crown showing stress reaction growth	>10	C3	2.1	14
T8	Sweetgum <i>Liquidambar styraciflua</i>	7.5	170	1.5	1.5	2	2	2s	3	1.5	1.5	1.5	Y	G	G/G/G	>20	B1	2.1	14
H2	Copper beech hedge <i>Fagus sylvatica</i> 'Purpurea'	2	-	-	-	-	-	-	-	-	-	-	EM	G	G/G/G Rear boundary hedge	>40	B3	-	-
G1	Common lime <i>Tilia x europaea</i>	22	600	3	6	6	6	-	-	-	-	-	M	G	G/G/# Group of 3 limes approximately 6m from rear boundary on adjacent land Average estimated dimensions given	>40	A1	7.2	163
T9	Japanese maple Spp. <i>Acer japonicum</i> Spp.	4	100 70 70	2.5	2	2.5	2.5	-	2	2	2	2	EM	G	G/F/G Codominant break of stems at base On raised ground behind low retaining wall	>20	B1	1.8	10
H3	Holly hedge <i>Ilex aquifolium</i>	2	-	-	-	-	-	-	-	-	-	-	M	F	G/G/G	>20	B1	-	-
T10	Pittosporum <i>Pittosporum tenuifolium</i>	10	300	3	3	3	3	-	3	3	3	3	M	G	G/F/# In adjacent garden beyond low retaining wall Average estimated dimensions given	>20	B1	3.6	41

ILLUSTRATIVE MATERIAL



KEY:

- 'A' Category

- 'B' Category

- 'C' Category

- 'U' Category

Tree stem

Crown spread
(in colour of retention category)

Shading arc

Root Protection
Area (RPA)

The Tree Retention Categories symbols shown in the key are for reference and may not always be present on the plan.

Other Plan Features

- Hedge

The Tree Retention Categories symbols shown in the key are for reference and may not always be present on the plan.

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Drawing title:
Tree Constraints Plan

Drawing number:
ARB-1996-01

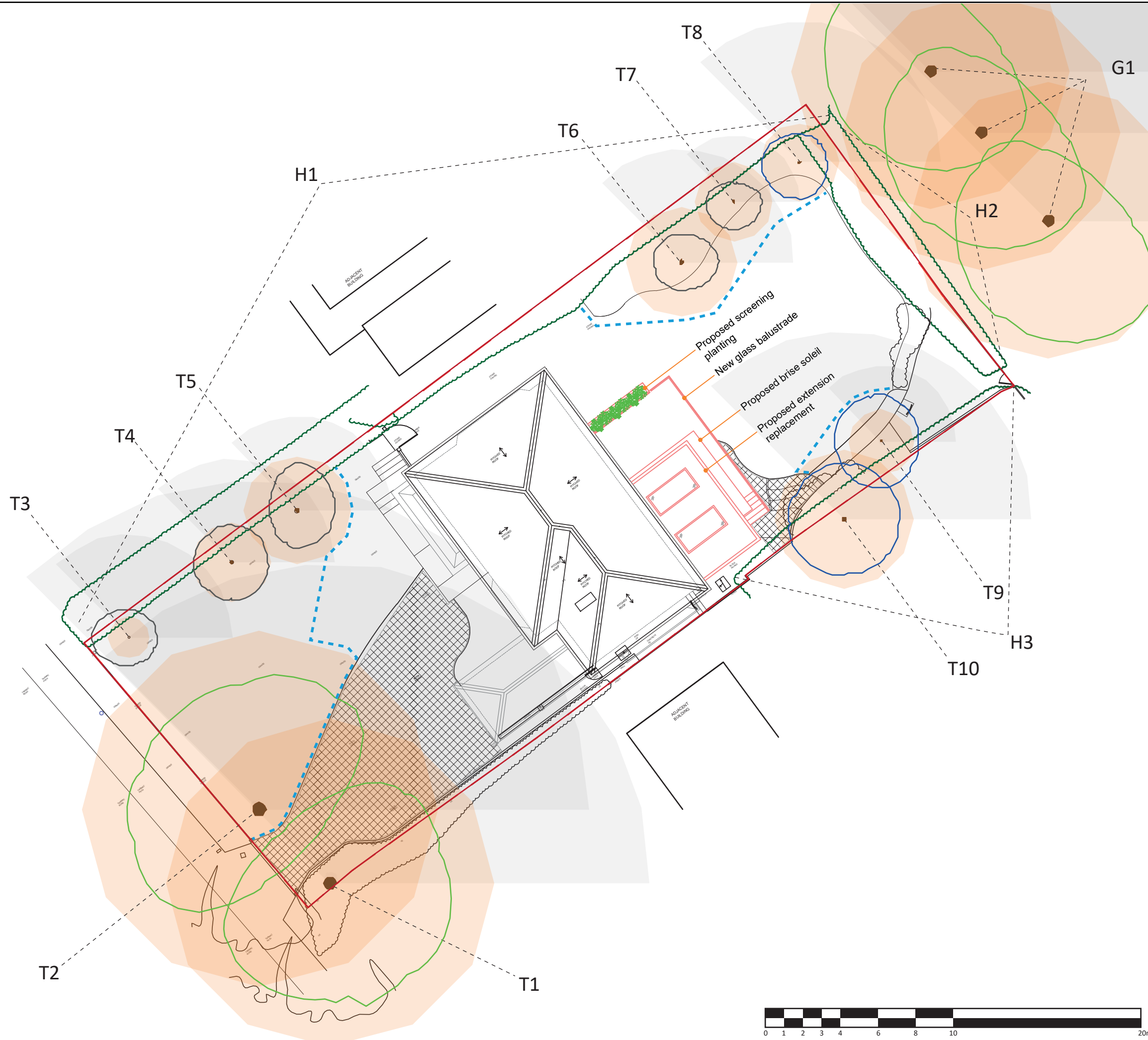
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Date:
June 25

Scale:
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DB:
SM

CB:
GH



KEY:

- 'A' Category

- 'B' Category

- 'C' Category

- 'U' Category

Tree stem

Shading arc

Crown spread
(in colour of retention category)

Root Protection
Area (RPA)

The Tree Retention Categories symbols shown in the key are for reference and may not always be present on the plan.

Other Plan Features

- Hedge

- Existing hardstanding ground

- Proposed location of CEZ fencing

- Extent of development area

The Tree Retention Categories symbols shown in the key are for reference and may not always be present on the plan.

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Tree Constraints Plan (Design Overlaid)

Drawing number:
ARB-1996-02

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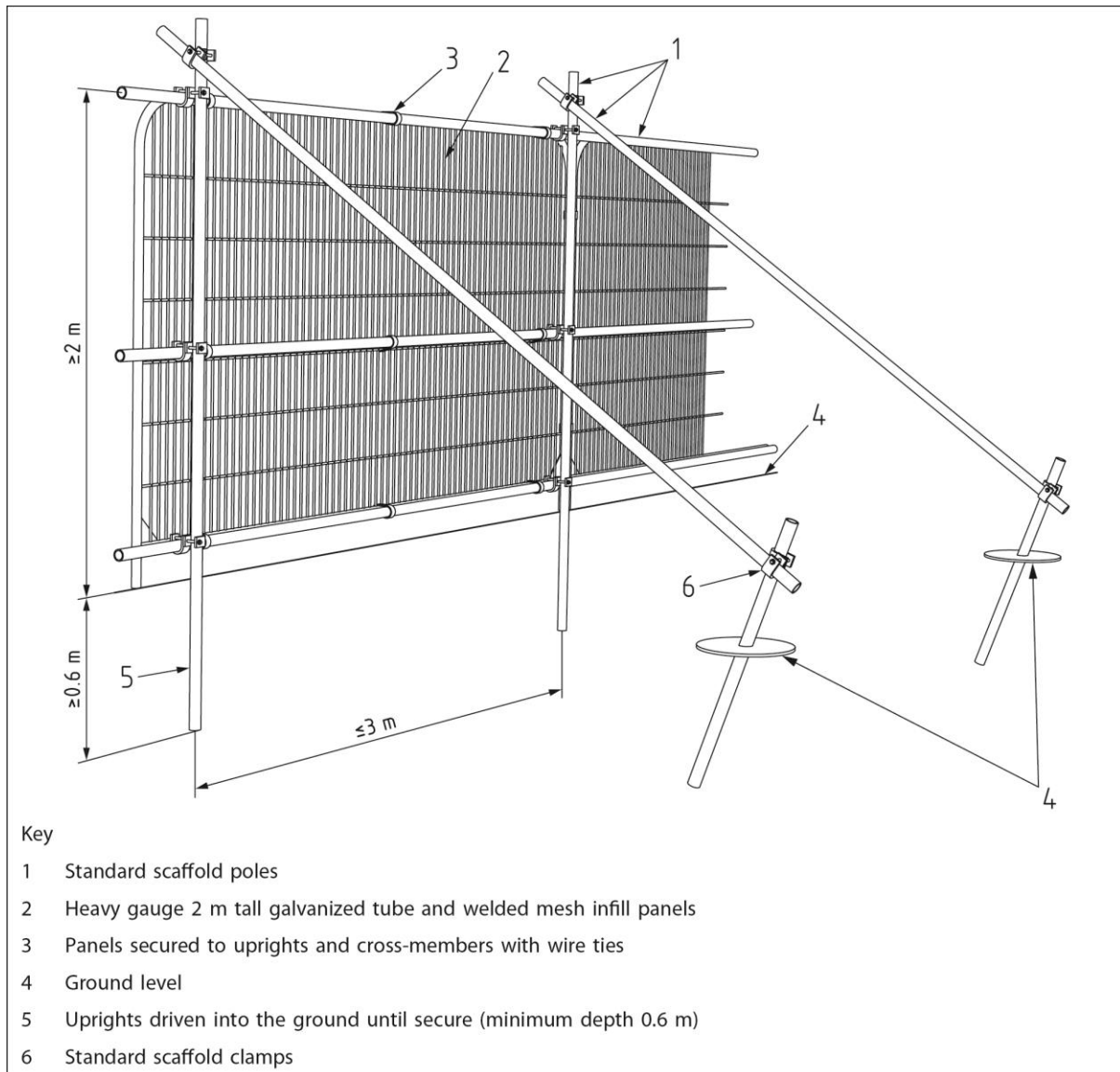
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DB:
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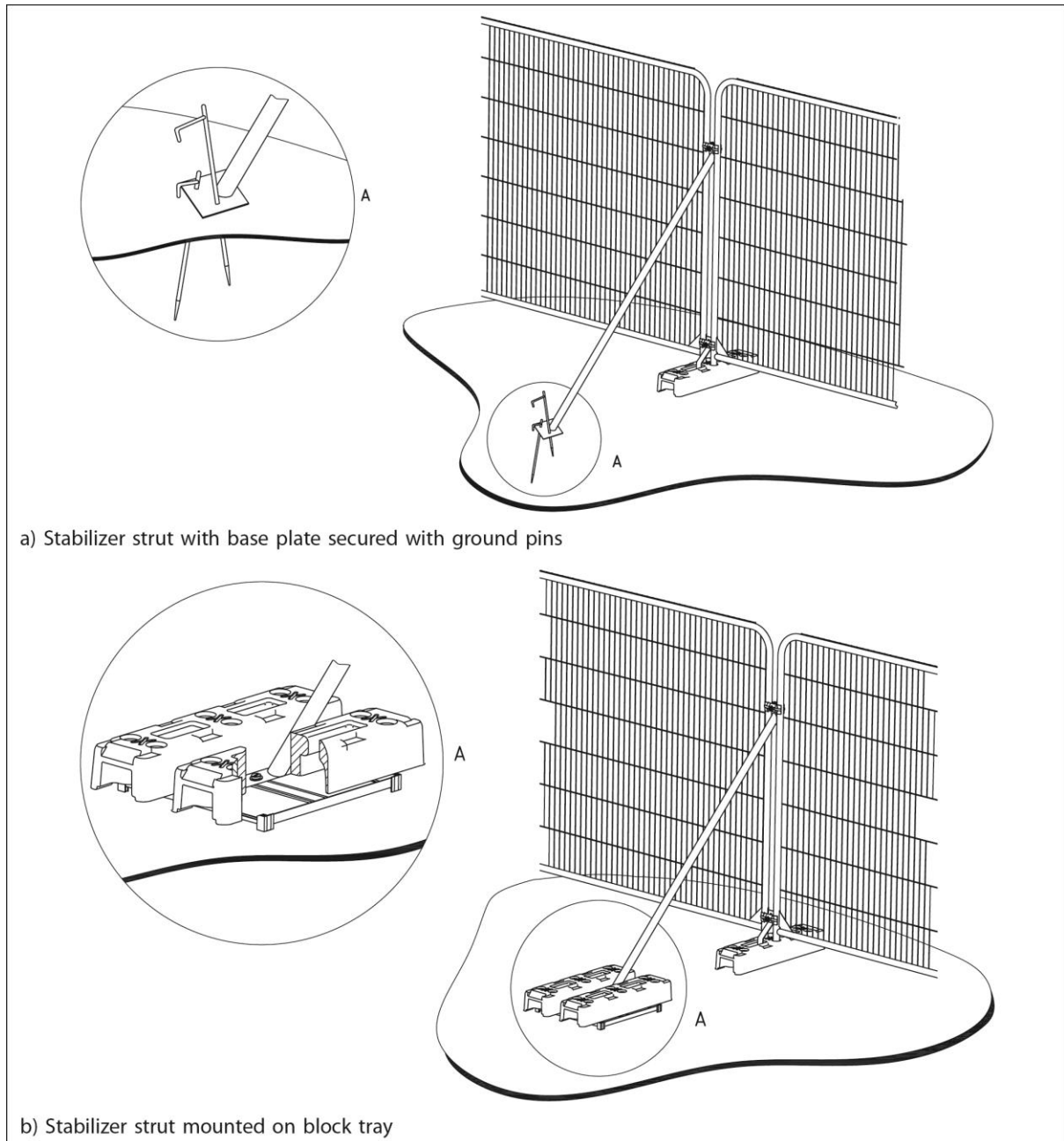
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APPENDICES

APPENDIX 1: BS5837:2012 DEFAULT SPECIFICATION FOR PROTECTIVE BARRIER



APPENDIX 2: BS5837:2012 ABOVE GROUND STABILISING SYSTEMS



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

APPENDIX 3: CASCADE CHART FOR TREE QUALITY ASSESSMENT

Category and definition		Criteria (including subcategories where appropriate)		
Trees unsuitable for retention				
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. <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>		
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).	
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.	
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.	