Arboricultural Constraints, Tree Impact and Protection Report

8 Montpellier Grove, Camden, London, NW5 2XD

Report Reference: 205788r_TCON001_8MON

Thor's Trees
Professional Arboricultural Services

Report produced by Paul Zepler / FdSc Arb, NC Arb, LANTRA PTI

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1.0 Executive summary

1.1 This arboricultural report has been compiled to identify the trees related constraints, impacts and mitigation required to facilitate a construction proposal within the grounds of 8 Montpellier Grove, NW5. Its purpose is to highlight conflicts between the proposal and established trees within an area of affect in accordance with British Standard 5837.

1.2 This investigation will include:

- Analysis of onsite tree related data obtained during a survey undertaken 11/03/2021
- The site context and analysis of constraints
- Discussion
- Recommendations

1.3 Conclusions will be based upon analysis of data detailed within this report.

1.4 Trees that are physically outside of the construction zone and have no root protection area in conflict with the construction, will either be noted as 'outside of scope' or not registered within the survey. These trees may require protection in the form of a tree protection plan should an Arboricultural Impact Assessment and Tree Protection Plan be required as part of the Local Planning Authority application process.

2.0 Introduction

2.1 This report has been produced by Paul Zepler, a professional within the arboricultural industry in relation to multiple disciplines within the sector. I currently hold the qualifications of FdSc arb, NC/arb and LANTRA PTI. I have also worked as an Arboriculture Officer for fourteen years, consulted for seven years and have an additional four years working in the industry in a practical capacity.

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3.0 Professional Standard References

3.1 I have referred to the following standards and act as a framework to ensure good practice and tree evaluation in relation to trees throughout this project:

3.2 British Standard 5837:2012 (Trees in relation to design, demolition and construction: recommendations) as a good practice guide for trees in relation to structure

3.3 British Standard 3998:2010 (Tree works recommendations) for pruning recommendations.

3.4 British Standard 8545:2014 (Trees from nursery to independence in the landscape) as a methodology reference for the relocation of young trees.

3.5 National Joint Utility Group (NJUG) Volume 4 for the implementation of utilities within the RPA of existing trees.

3.6 The Wildlife and Countryside Act 1981 for wildlife protection law and good practice.

3.7 The Environmental Protection Act 1990 as a point of reference for noise pollution constraints.

3.8 Countryside and Rights of Way Act 2000 as point of reference for the protection of bats due to the documented presence of cavities within the tree survey.

3.9 Natural Environment and Rural Community's act 2006 as point of reference for the protection of bats due to the documented presence of cavities within the tree survey.

4.0 Site Description

4.1 Montpellier Grove is situated within a residential part of Camden; with little tree cover other than on the public highway and local authority green spaces.

The site has no arboricultural features of any significance contained within the property boundary, but boarders Montpellier Gardens play area where there are some trees of note. Even through this site has few features the owner would like to retain as much as possible during the construction process.

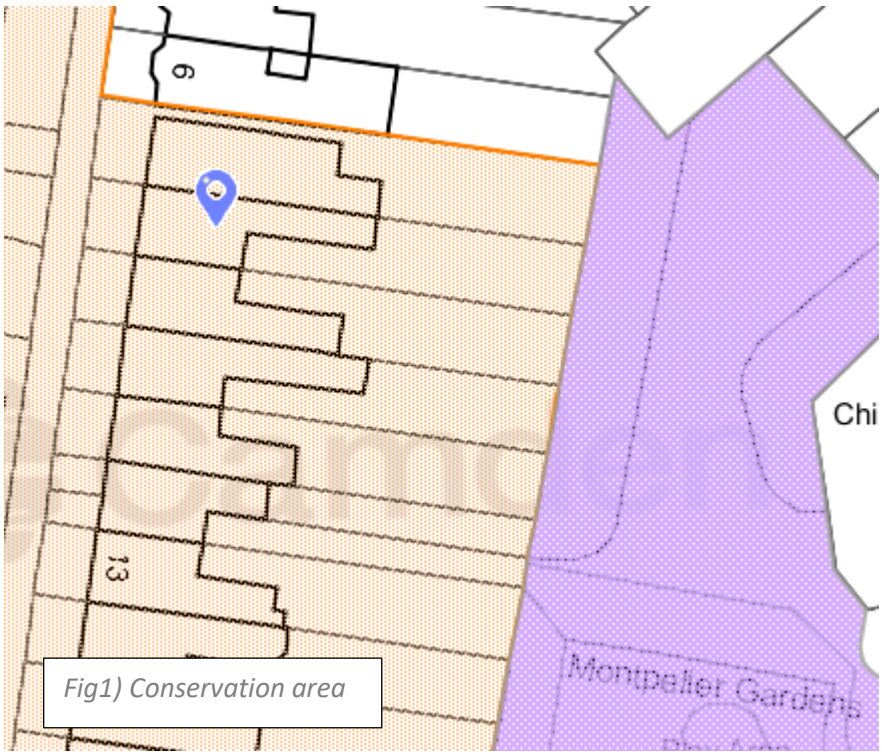

Fig1) Conservation area

The plot is situated on a bedrock of London Clay which will need to be considered when designing the foundations specification for the proposed structure. Piled and rafted foundations have been proposed to mitigate both substrate shrinkage and incursion into the RPA of any retained trees.

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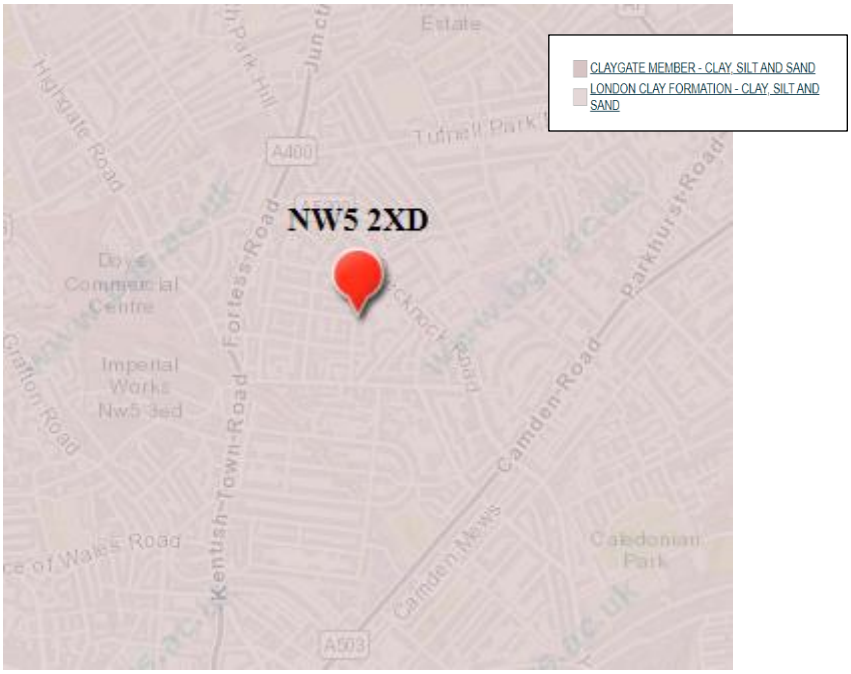


Computer Code:	LC	**Preferred Map Code:**	LC
Status Code:	Full		
Age range:	Ypresian Age (GY) — Ypresian Age (GY)		
Lithological Description:	The London Clay mainly comprises bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. It commonly contains thin courses of carbonate concretions ('cementstone nodules') and disseminated pyrite. It also includes a few thin beds of shells and fine sand partings or pockets of sand, which commonly increase towards the base and towards the top of the formation. At the base, and at some other levels, thin beds of black rounded flint gravel occurs in places. Glauconite is present in some of the sands and in some clay beds, and white mica occurs at some levels.		

Definition of Lower Boundary:	The base of the London Clay formation was redefined by Ellison et al. (1994) to correspond to the base of the Walton Member (Division A2) of King (1981). It is usually marked by a thin bed of well-rounded flint gravel or a glauconitic horizon, or both, typically resting on a sharply defined planar surface, although locally uneven. The London Clay Formation overlies the Harwich Formation or, where the Harwich Formation is absent, the Lambeth Group.
Definition of Upper Boundary:	The top of the London Clay Formation is taken as the top of the Claygate Member, which is distinguished from the overlying Bagshot Formation by containing finer sand without cross-bedding and in the relative abundance of clay and silt in the Claygate Member.
Thickness:	Up to 150m in eastern part of the London Basin (Essex).
Geographical Limits:	The London Clay occurs in the London Basin, East Anglia and the Hampshire Basin.
Parent Unit:	Thames Group (THAM)

5.0 Tree constraints and impact assessment

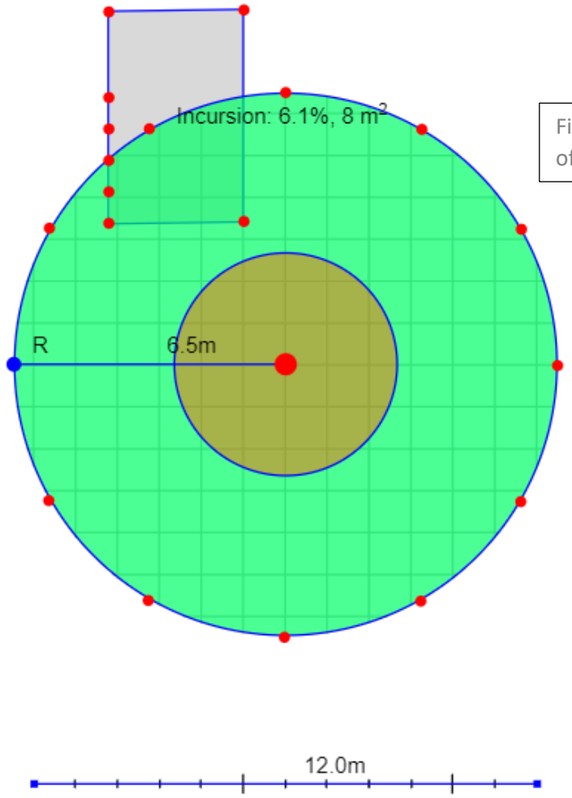
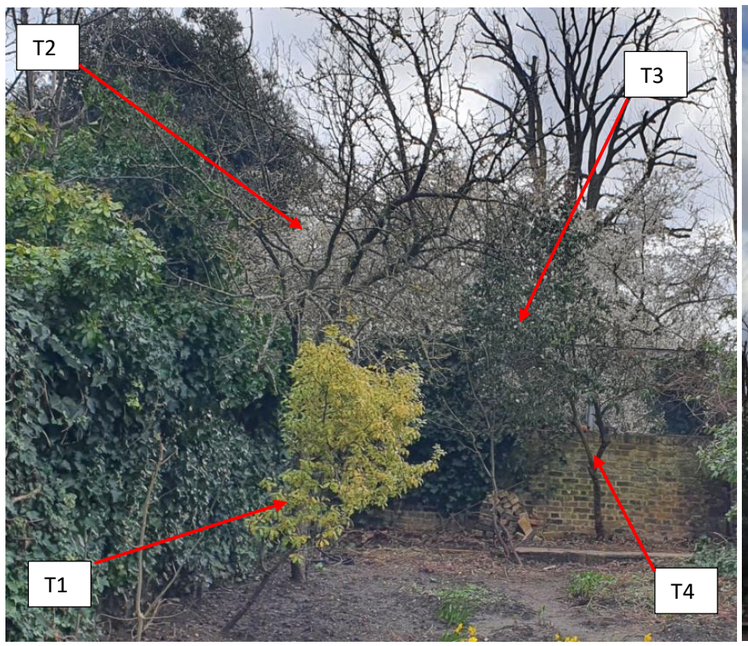


Fig2) Incursion into the RPA of T5



T5 has displaced the adjacent property wall

T5 has displaced the is starting to trespass onto both adjacent properties

6.0 Tree data

Map REF	Species	DBH (mm)	RPA(m/r)	Crown-Spread N/E/S/W				Age	SULE Years	Condition	BS5837 Cat	Wildlife	Comments	Proposal
T1	*Viburnum sp*	40	0.48	1	1	1	1	E	40+	Good	**C1**	No	BA5837 CAT based upon stem diameter	**Retain and protect RPA**
T2	*Apple*	145	1.74	1	2	2	2	EM	40-80	Good	**B1**	No	N/A	**Retain and protect RPA**
T3	*Sycamore (self-set)*	30	0.36	0.5	0.5	0.5	0.5	M	40-80	Good	**C1**	No	N/A	**Remove**
T4	*Cotoneaster*	95	1.14	1	0.5	0.5	0.5	E	40-80	Good	**C1**	No	N/A	**Remove**
T5	*Poplar*	545	6.54	4	4	4	4	M	10-20	Fair	**B1**	No	Starting to displace adjacent partition structure	**Retain and protect RPA**

Legend:
E=Early/ EM = Early-mature / M = Mature
DBH = Diameter at breast height, taken at 1.5m
T = Tree
RPA = Root Protection Area
BS5837 Category: A category assigned by the 'British Standards' document 5837 to qualify condition of individual or grouped specimen, definition can be found on page 9 of the BS5837 document

7.0 Summary of constraints and considerations

7.1 Both T3 and T4 require removal to facilitate this construction, both are BS:5837 Category C trees based upon their stem diameter.

7.2 There is an existing foundation where the proposed construction has been designated. This is likely where a rafted shed had once been placed. Piled foundations have been proposed for this project so the demolition of the existing foundation would be necessary to facilitate the build. This will need to follow an arboricultural methodology for demolition (SEE APPENDIX A).

7.3 Before piled and rafted foundations are constructed this would be an opportunity to remediate and aerate the existing substrate of T5, with a more nutrient rich soil. All excavation for pilings should be done by hand and under arboricultural supervision (SEE APPENDIX B)

7.4 Protection for T1 and T2 is required to reduce the risk of any incidental damages occurring (SEE APPENDIX C)

7.5 Access for the build will need to traverse through a proportion of the RPA of T5, the soil should be protected from any compaction and or incidental leaching. In this instance the garden is already being used as the RPA has trespassed into the rear garden of 8 Montpellier Grove. For this reason, a boarding rather than a geo-textile solution is appropriate (SEE APPENDIX C).

7.6 The condition of T5 is questionable, this should be highlighted with the relevant Local Authority as it is situated within a communal park with a collapse range into the garden of 8 Montpellier Grove.

7.7 T5 is trespassing into adjacent properties by displacing boundary walls and fence line.

7.8 No nesting or roosting wildlife was identified during the arboricultural survey.

7.9 Any proposed tree removal should be backed up with a replacement strategy within a landscaping plan, this includes all BS:5837 Category Trees.

8.0 Conclusion(s)

This is a relatively non-invasive proposal. There has been existing foundation in the position which is been highlighted for the structure. A piled foundation allows for soil remediation and even less invasive substrate than currently exists. If the methodology within this report is followed, then will be no intentional impact as a result of the erection of this rear garden dwelling space.

APPENDIX A: ACCESS, DEMOLITION AND SITE MANAGEMENT

A.1 All contact with site is to be undertaken with the greatest care to ensure that soil compaction does not arise as a result of tree works. No equipment or vehicles such as timber Lorries, tractors, excavators or cranes are to be driven or parked beneath the crowns of retained trees. After access related tree works has been undertaken protective barriers are to be erected to ensure no plant machinery or vehicle can gain access to the Construction Exclusion Zone (CEZ)

A.2 Any demolition works within or immediately adjacent to the RPA of retained trees should be done so under the supervision of the consulting arborist and by hand.

A.3 Existing services on the site should be retained wherever possible, the upmost care should be undertaken to minimalize disturbance and statutory utility plans should be acquired by the construction company.

SITE PROHIBITIONS:

- Mechanical digging or scrapping is not permitted within the defined Root Protection Area (RPA) or Construction Exclusion Zone (CEZ)
- No access will be permitted within the RPA of trees under preservation or the CEZ
- No temporary structure is allowed within the RPA of trees under preservation or the CEZ
- No materials equipment or debris will be stored within the RPA of trees under preservation or the CEZ
- Fires are not permitted within 10.5m of any vegetation
- Leaning objects or attaching objects to retained trees is not permitted
- Machinery, plant and vehicles are not permitted within 10m of tree noted within the TPP
- Chemicals and materials are not to be transported, stored, used or mixed within the RPA of retained trees
- Cement soil mixing is to be done in a designated area no less that 10m from retained trees
- Refuelling of plant machinery is prohibited within 10m of the RPA of trees under preservation or the CEZ
- Allowances should be made for the slope of the ground when washing materials to prevent leaching into the RPA of retained trees

A.4 The site manager or property owner will be responsible for briefing / inducting all personnel who will be working on any stage of this development with special reference being given to those working within the RPA of retained trees. This method statement and the TPP should be explained to all who enter or work on site.

A.5 Any incidents of damage to retained trees should be documented by the site manager and forwarded to the consulting arborist for inspection as soon as reasonably practicable.

A.6 The site manager or property owner will be responsible for liaising with the consulting arborist to go over any issues that arise, unforeseen tree related conflicts or to discuss any part of this method statement that is not fully understood.

A.7 All vehicles, plant machinery, chemicals and tools will be stored at a designated site that is outside of the Construction Exclusion Zone (CEZ) documented within the TPP (See APPENDIX B).

A.8 It is the responsibility of the site manager to ensure that all LPA requirements are met during the demolition process.

A.9 In the absences of a site manager a designated site supervisor will take over these responsibilities.

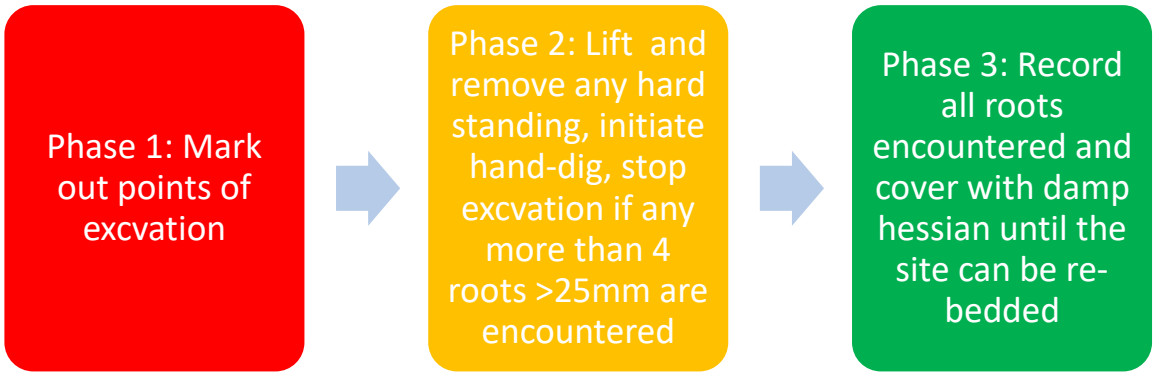
APPENDIX B: HAND DIG METHODOLOGY

- All works will be in keeping with BS: 5837 Recommendations.
- Excavation works will exceed NJUG Vol4 recommendations.
- All excavations shall be hand dug when within the RPA of adjacent trees
- Unless of incidental severance: No root with a diameter of greater than 25mm will be severed during the dig (intentionally).
- All roots that are found with a diameter of greater than 25mm will be reported upon to the project arborist.
- Root activity is defined in this instance as roots with a greater diameter than 25mm.
- Tools for excavation and a record ledger are detailed below:




Root diameter	*Number*	*Location within pit*
<25mm		
25-55mm		
45-60mm		
>60mm		

- Phases of excavation below:



APPENDIX C: TREE PROTECTION PLAN

C.1 Root protection areas of retained trees are as follows:

Tree reference	DBH (highest value)	RPA
T5	545mm	6.54m
T1	40mm	0.48m
T2	145mm	1.74m

C.2 The RPA measurements from above should be accurately distanced and fenced off in accordance with the provided specification (fig3).

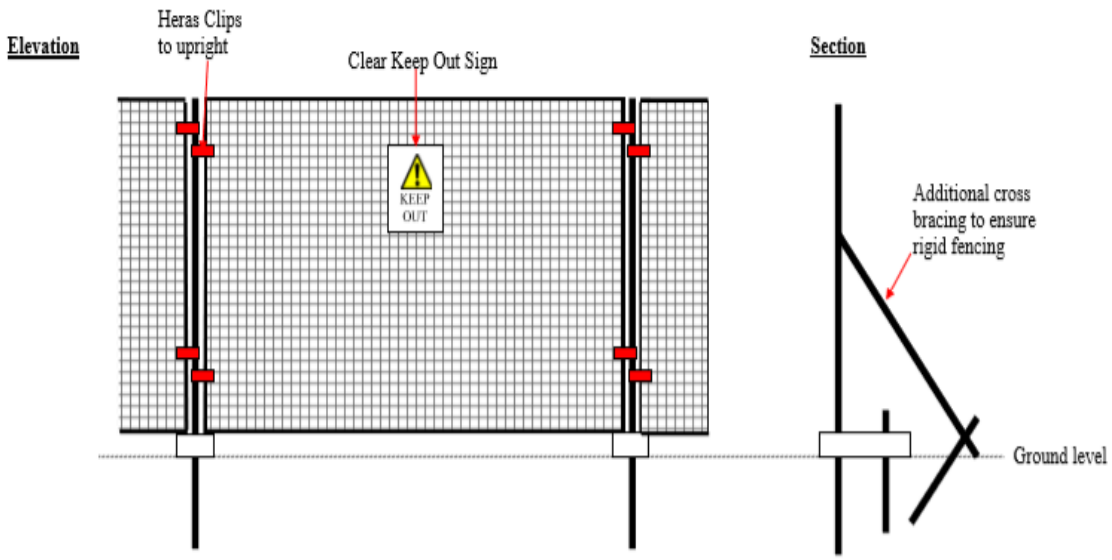
C.3 All storage of works arising's, plant material should be outside of the protections zone.

C.4 Access should not be granted into the protection zone without arboricultural supervision.

C.5 Clear signage should denote exclusion from the protection zone (fig4).

Fig3

Tree Protection Fencing Specification



Tree Protection Fencing should be erected as per the Tree Protection Plan With the fencing erected prior to any demolition or enabling works commencing or materials being delivered to site.

If concrete or rubber feet are used these must be pinned to the ground to prevent movement.

Fig4

TREE PROTECTION AREA

PLEASE KEEP OUT

The trees in this area are protected by Statutory Protection and / or Planning Conditions. Any works in this fenced off area may result in damage to the above ground parts or root system of these trees.

Damage to these trees is a criminal offence and breach of the planning consent and may lead to a criminal prosecution. and / or enforcement action.

Any works in this area must be undertaken as per the Arboricultural Report.

C.6 Any ground protection to be installed must be strong enough to support any predicted load and resist compaction and soil damage. And any scaffolding that is to be erected within the exclusion zones should be in line with the following recommendations:

The primary method of protecting the ground when erecting scaffolding within RPA's is by side butting scaffolding boards on a compressible layer such as bark chippings on a geotextile membrane such as those provided by TERRAM geo-textile -

(http://www.terram.com/applications/ground-stabilisation.html)

The scaffolding may be erected first with the uprights placed on spreader boards and the ground protection installed around the uprights.

The boarding will be left in place until the building works are finished. A single thickness of boarding laid on the soil surface will provide sufficient protection for pedestrian loads. However, for wheeled or tracked construction traffic movements within the RPA, ground, protection should be designed by the project engineer to accommodate the likely loading and may involve the use of proprietary systems such as three-dimensional cellular confinement systems and approved for use by the developers arboricultural consultant and local authority before any works start.

The ground beneath any protection boarding will be left undisturbed and will be protected with a porous geotextile fabric. If necessary, sand should be laid on the fabric to level the ground


8C
9
10A
T1
T
Protective fencing
Protective boarding
T5

APPENDIX D: BS-5837 CATEGORY

BS5837:2012 Trees in relation to design, demolition and construction – Recommendations

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories when 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 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 might be desirable to preserve; see 4.5.7.*			Dark red
	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 dominate 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)	Light green
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 remedial defects, including unsympathetic management and storm damage), such that they are unlikely to be suitable for retention of 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	Mid blue
Category C **Trees of low quality** with an estimated remaining expectancy of at least 10 years, or young trees with a stem diameter below 150mm	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 value	Trees with no material conservation or other cultural value	Grey