TREE SURVEY REPORT

PRE-DEVELOPMENT

[redacted]

May 2019

SITE : Woodland Manor Hotel, Clapham, Bedford

CLIENT : [redacted]

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A pre-development advisory document, broadly in accord with British Standard 5837 : 2012 'Trees in relation to Design, demolition & construction - Recommendations', designed to inform the conceptual design by highlighting the above and below ground arboricultural constraints in the context of a proposed development.

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1.0 Terms of Reference

1.1 We are instructed by [redacted] to undertake a pre-development tree survey and impact assessment on land at Woodland Manor Hotel, Clapham, Bedford, which is to be in line with B.S. 5837 : 2012 'Trees in Relation to Design, Demolition & Construction - Recommendations'.

1.2 All trees on or immediately adjacent the application site have been inspected from ground level only. Should further, more detailed inspection be deemed appropriate, this will be covered under Recommendations. Trees are dynamic living organisms, whose health and condition can be subject to rapid change, depending on a number of external and internal factors. The conclusions and recommendations contained in this report relate to the trees at the time of inspection.

1.3 The site survey and tree assessment was undertaken by Robert Yates (Principal at RGS); Robert Yates holds the formal qualification Tech.Cert.(Arbor.A), the LANTRA Certificate in Professional Tree Inspection and is a member of the Consulting Arborist Society, the Arboricultural Association and The Royal Forestry Society.

1.4 This report, its appendices and any subsequent revisions or additional information, will form part of any formal planning application in respect of the development of this site, and as such will be open to public scrutiny and comment.

2.0 Survey Methodology

2.1 The trees have been assessed using the current recommendations, as detailed in British Standard 5837 : 2012 'Trees in relation to Design, Demolition & Construction – Recommendations', in order to arrive at a Retention Category for each individual tree or group of trees. A Root Protection Area (RPA) has been assigned to each tree, based on its stem diameter and in some cases crown spread, which has then been used to produce the Tree Constraints/Protection Plans (attached as appendix 3). For full details of the relevant assessment criteria and retention categories see Table 1 of B.S. 5837 (attached as appendix 4).

2.2 All surveyed trees or groups of trees have been given a notional reference number i.e. T1 – T26, G1 – G3 & H1 (some trees also have pre-existing numbered tags). All collected survey data and work recommendations for the trees is presented in the survey schedule which forms appendix 2 to this report. For the location of the trees see appendix 3A (Tree Constraints Plan - Existing).

3.0 Site Overview / Design Brief

3.1 The survey area comprises the land to the east and north of the hotel at Woodland Manor; within this area there are a large number of mature trees of varying species, the majority of which are the subject of a Tree Preservation Order.

3.2 The development proposal briefly comprises the erection of a courtyard style residential development in the northern corner of the hotel grounds.

4.0 Summary of Findings & Conclusions

4.1 A total of **26no.** individual trees, **3no.** groups of trees and **1no**. hedgerow have been surveyed. A breakdown of the numbers of trees in each retention category can be seen in the table below:

Table 1

Retention Category	**Individual Trees (T)**	**Groups of Trees (G)**	**Hedgerows (H)**
A High Quality	3	0	0
B Moderate Quality	10	0	0
C Low Quality	9	2	1
U (Unsuitable for retention – Poor Quality)	4	1	0
Totals	**26**	**3**	**1**

4.2 All U Category trees should generally be removed for reasons of sound arboricultural practice or health & safety, irrespective of any development proposals, unless they offer particular conservation value to the site, in which case this will be highlighted in the survey schedule along with appropriate recommendations.

4.3 As regards the C category trees, it may not always be possible or even desirable to retain low quality trees within the context of a proposed development, unless in such a location that they do not represent a significant constraint on the design brief. Young trees, and those with a stem diameter of less than 150mm, will normally be placed in the C category, unless it is considered that they are of especially good form or are of a species that is particularly rare, in which case they may be upgraded. In certain cases it may be appropriate to consider re-location of young C category trees within the site.

4.4 All A & B Category trees (high & moderate quality) will under normal circumstances be retained on development sites, and should ideally influence and inform the conceptual design, site layout, and in some cases the specific construction methods to be used – The root protection area and/or crown spread of these trees will generally form a construction exclusion zone, although under certain circumstances it may be possible to build or operate within these areas providing that appropriate measures and specifications have been formally agreed between the local planning authority, the consulting arboriculturist and the developer/client.

5.0 Arboricultural Impact Assessment

5.1 Based upon the proposed site layout, as included at Appendix 3B, the following impacts and implications have been identified and their arboricultural significance assessed.

5.1.1 To facilitate the development a total of 13no. trees would need to be removed; this includes two B category individuals, the remainder being either C or U category i.e. low or poor quality . The loss of moderate quality trees (B category) can, and should be mitigated by new/replacement planting.

5.1.2 In addition to the tree removal, the hedgerow H1 (low quality), will need to be removed, since this would conflict with the northeast elevation of the proposed building. Some replacement boundary planting will be required to provide screening along the boundary with neighbouring property.

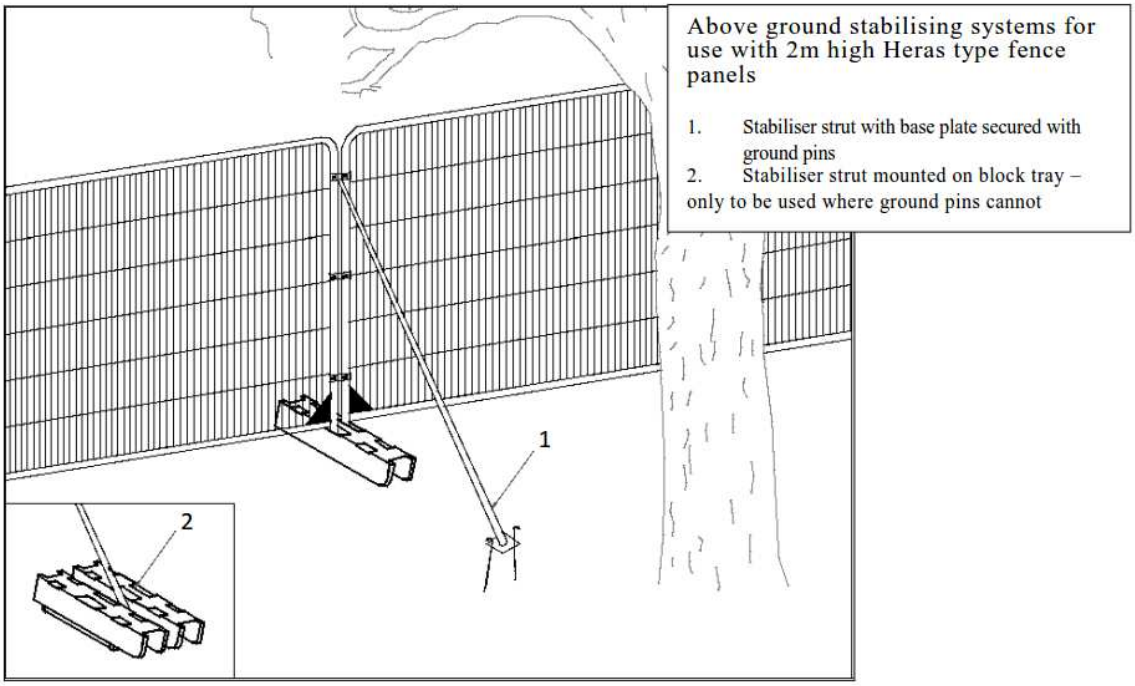
5.1.3 Whereas it would appear on the proposed layout plan that the root protection area of tree T22 would be significantly compromised by the access road, in practice this should not pose any adverse impact upon the tree, given that there is already an asphalt surfaced road in this location, which will only require re-surfacing works.

6.0 Recommendations / Tree Protection Strategy

6.1 All tree removal works and facilitation/remedial pruning, as specified at Appendix 2, must only be carried out by suitably qualified and experienced contractors, and should conform to guidelines set out in British Standard 3998 : 2010 'Tree work – Recommendations'. This should take place before any other enabling works on site.

6.2 Temporary tree protection fencing is to be erected prior to any enabling works, other than tree work, commencing on the site, in the locations indicated on the Tree Protection Plan at Appendix 3B; the fencing is to be to the specification shown at Fig.1. The fenced areas are to exclude all construction activities, including temporary materials storage, for the duration of the development works and shall be affixed with appropriate signage at regular intervals to warn contractors that the enclosed areas are strictly off-limits, other than for essential maintenance works.

Fig.1 Example of suitable temporary tree protection fencing - Specification



6.3 The removal of the shipping container and various small outbuildings in the vicinity of T20 & T22 will need to be undertaken with extreme care, so as to avoid any damage to either tree, but in particular the A category T20.

7.0 Statutory Obligations

- Works to trees which are covered by Tree Preservation Orders [TPOs] or are within a Conservation Area [CA] require permission or consent from the Local Planning Authority [LPA]. It is necessary to obtain formal approval only where pre-emptive tree works are to be actioned. Full planning consent will however, override the need for a separate application, providing that details of all tree works were included in the submission and subsequently approved by the local authority.

- It is a criminal offence under normal circumstances to disturb or destroy - whether intentional or unintentional - the nesting sites of wild birds or the roost sites of bats, under the 'Wildlife & Countryside Act 1981, the 'Countryside and Rights of Way Act 2000' and the 'Conservation of Habitats & Species Regulations 2017'.
  Therefore, avoid carrying out significant tree works during the bird nesting season [mid-March to mid-August] and ensure that trees are professionally surveyed for signs of bat roosts and/or bat activity before starting any significant tree work, such as felling or heavy crown reduction. Further advice on how to proceed should bat occupation be suspected can be obtained from your local office of Natural England or any qualified ecologist.

APPENDIX 1 :

KEY TO SURVEY CRITERIA & HEADINGS:

Tree No.	Notional ID given to each tree or group of trees (unless tagged)
Species	Botanical name with common name in brackets
Age Class	Young, semi-mature, early mature, mature or over-mature
Height	Estimated in metres
Crown Spread	Crown spread (North / East / South / West) measured from centre of trunk, in metres
Crown clearance	Approximate height between lowest part of canopy and ground level (metres)
Stem dia.	Trunk diameter (mm) measured at 1.5m above ground level, or other height as specified
Vigour	Objective assessment of a tree's vigour e.g. shoot extension growth (normal, reduced or low)
Amenity	Subjective assessment of a tree's contribution to the amenity value of the immediate area: High to Low
Condition	Good, Fair or Poor, based on the general health and structural condition of the tree
Recommendations	Remedial works in order to facilitate retention, or recommendation to remove
Ret.Cat.	Based on B.S.5837 Retention categories:
	A = Those of High Quality & Value
	B = Those of Moderate Quality & Value (Sub-categories 1, 2, 3 for A & B categories in brackets)
	C = Those of Low Quality & Value
	U = Unsuitable for retention
RPA	Root Protection Area, measured in metres (radius) from centre of tree, or may be expressed in m2

APPENDIX 2 : SURVEY SCHEDULE (Page 1 of 5)

Tree No. (tag)	Species (common name)	Age class	Height (m)	Crown Spread (m) :				Crown Clearance	Stem dia. (mm)	Vigour	Amenity Value	Condition	Comments	Recommendations	Ret. Cat. (sub cat.)	RPA (m)
				N	E	S	W									
T1 (703)	***Castanea sativa*** (Sweet Chestnut)	**mature**	**14**	**8**	**6**	**8**	**7**	**2**	**1270**	**normal**	**mod/high**	**good/fair**	**previously reduced crown**	**no works required**	**B (1/3)**	**15.0**
T2	***Platanus x acerfolia*** (London Plane)	**mature**	**24**	**7**	**7**	**7**	**7**	**2.5**	**1260**	**normal**	**high**	**good/fair**	**previously reduced crown**	**no works required**	**B (1)**	**15.0**
T3 (710)	***Aesculus hippocastanum*** (Horse Chestnut)	**mature**	**23**	**7**	**6**	**9**	**9**	**1**	**1500**	**normal**	**high**	**fair**	**numerous stem & branch cavities**	**no works required**	**B (1)**	**15.0**
T4	***Acer platanoides*** (Norway Maple)	**mature**	**16**	**6.5**	**2**	**7**	**7.5**	**2**	**4x 300 +200**	**normal**	**moderate**	**fair**	**5 stems, incl. one previously failed**	**no works required**	**B (2)**	**7.6**
T5	***Tilia x europaea*** (common Lime)	**mature**	**20**	**5**	**5**	**5**	**5**	**0**	**840**	**normal**	**high**	**good/fair**	**extensive basal epicormic growth, co-dominant from 3m**	**remove basal growth**	**B (1/2)**	**10.1**
T6 (761)	***Tilia cordata*** (small leaved Lime)	**mature**	**18**	**9**	**3**	**2**	**4.5**	**4**	**950**	**normal**	**mod/high**	**poor**	**past failure in main stem at 5m, one remaining large lateral branch to north**	**reduce length of north facing lateral branch by 50%, or remove entire tree to ground level**	**C**	**11.0**
T7 (717)	***Acer pseudoplatanus*** (Sycamore)	**mature**	**15**	**6**	**6**	**4**	**5**	**2**	**6x 200**	**normal**	**mod/low**	**fair**	**multi-stem form, die-back in south facing stem**	**no works required**	**C**	**5.9**

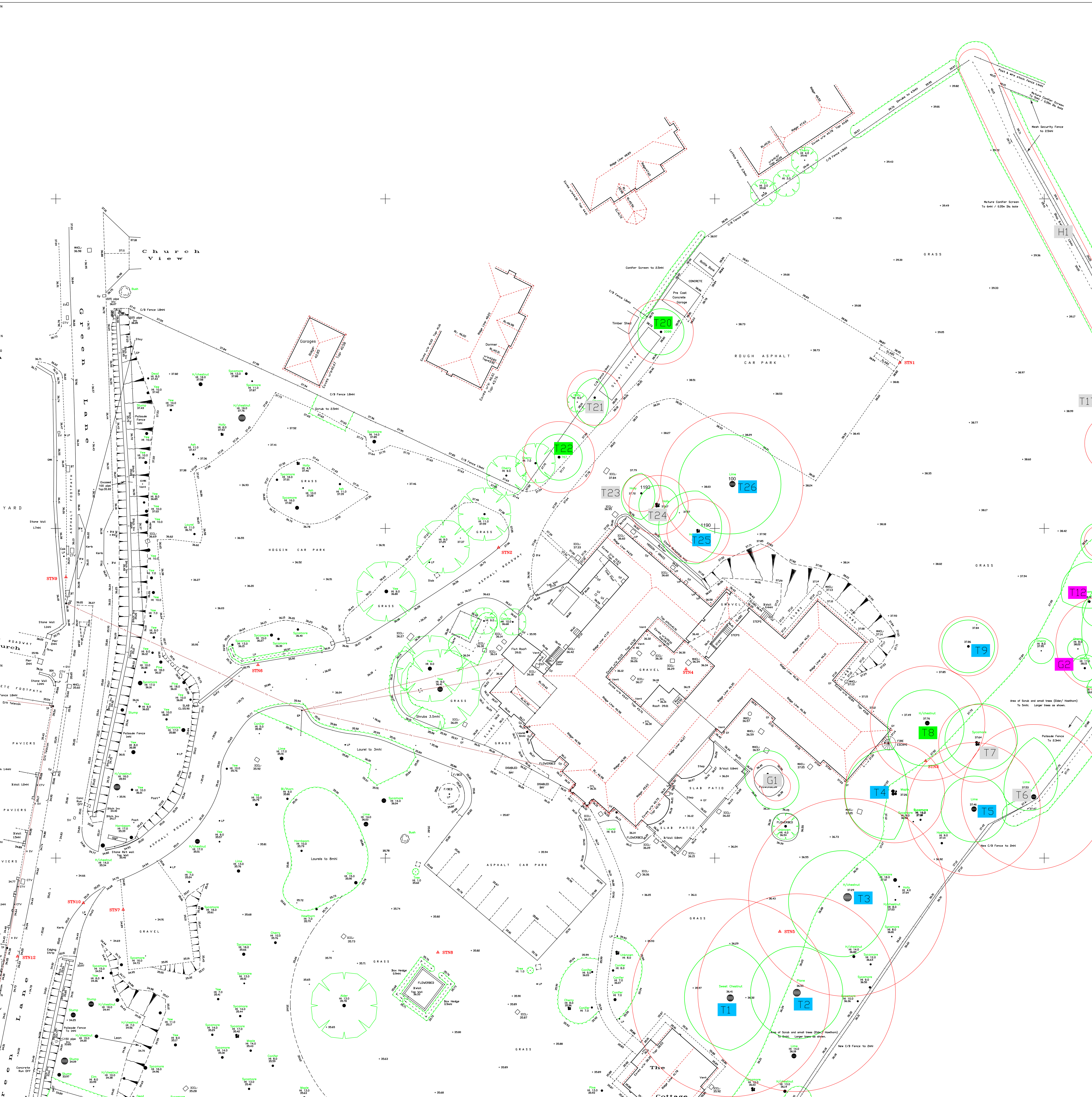
Tree No. (tag)	Species (common name)	Age class	Height (m)	Crown Spread (m) :				Crown Clearance	Stem dia. (mm)	Vigour	Amenity Value	Condition	Comments	Recommendations	Ret. Cat. (sub cat.)	RPA (m)
				N	E	S	W									
T8	***Aesculus hippocastanum*** (Horse Chestnut)	**mature**	**16**	**5**	**5.5**	**6.5**	**6**	**1.5**	**720**	**normal**	**moderate**	**good**	**co-dominant from 3m, crown to west in contact with building**	**reduce crown on west side to clear building by 1m**	**A (1)**	**8.7**
T9 (721)	***Pyrus calleryana*** (ornamental pear)	**mature**	**12**	**4**	**4**	**4**	**4**	**2**	**370**	**normal**	**mod/low**	**good**	**co-dominant from 2.5m**	**no works required**	**B (1)**	**4.5**
T10 (197)	***Prunus avium*** (Wild Cherry)	**mature**	**12**	**10**	**7**	**6**	**3**	**2.5**	**590**	**low**	**moderate**	**fair/poor**	**low vitality, heavily biased to north**	**Reduce lateral crown spread to north by 3.5m**	**C**	**7.1**
T11	***Acer pseudoplatanus*** (Sycamore)	**early mature**	**10**	**2.5**	**2.5**	**2.5**	**2.5**	**2**	**190**	**normal**	**low**	**poor**	**upper crown die-back**	**REMOVE**	**U**	**n/a**
T12	***Acer pseudoplatanus*** (Sycamore)	**early mature**	**11**	**6**	**4**	**1**	**4**	**1**	**280**	**normal**	**low**	**poor**	**upper crown die-back**	**REMOVE**	**U**	**n/a**
T13 (171)	***Acer pseudoplatanus*** (Sycamore)	**mature**	**11**	**4**	**7**	**4**	**1**	**n/a**	**400**	**low**	**low**	**poor**	**dead tree**	**REMOVE**	**U**	**n/a**
T14 (180)	***Crataegus monogyna*** (Hawthorn)	**mature**	**8**	**2.5**	**2.5**	**2.5**	**2.5**	**2**	**2x 200**	**low**	**low**	**fair/poor**	**co-dominant stems, crown die-back**	**Remove to facilitate development**	**C**	**(3.7)**

Tree No. (tag)	Species (common name)	Age class	Height (m)	Crown Spread (m) :				Crown Clearance	Stem dia. (mm)	Vigour	Amenity Value	Condition	Comments	Recommendations	Ret. Cat. (sub cat.)	RPA (m)
				N	E	S	W									
T15	***Fraxinus excelsior*** (Ash)	**mature**	**16**	**6**	**9**	**5**	**3.5**	**2.5**	**550**	**normal**	**moderate**	**fair**	**deformed lower stem, but structurally sound**	**Remove to facilitate development**	**B (1/2)**	**(6.6)**
T16	***Acer pseudoplatanus*** (Sycamore)	**early mature**	**12**	**5**	**5**	**5.5**	**2.5**	**2**	**380**	**normal**	**moderate**	**good/fair**	**minor fire damage to crown**	**Remove to facilitate development**	**B (1/2)**	**(4.6)**
T17	***Quercus robur*** (English Oak)	**semi-mature**	**7.5**	**5**	**1**	**1**	**3**	**1.5**	**220**	**normal**	**low**	**fair**	**pronounced lean to north**	**Remove to facilitate development**	**C**	**(2.7)**
T18 (167)	***Crataegus monogyna*** (Hawthorn)	**mature**	**8**	**3**	**3**	**1.5**	**3.5**	**2**	**3x 200**	**low**	**low**	**fair/poor**	**pronounced crown die-back**	**Remove to facilitate development**	**C**	**(4.2)**
T19 (179)	***Pyrus sp.*** (Pear)	**mature**	**8**	**2**	**1**	**1**	**3**	**4.5**	**200**	**low**	**low**	**poor**	**advanced crown die-back/terminal decline**	**REMOVE**	**U**	**n/a**
T20 (099)	***Alnus cordata*** (Italian Alder)	**mature**	**12**	**3.5**	**3.5**	**3.5**	**3.5**	**2**	**410**	**normal**	**moderate**	**good**	**no comments**	**crown lift to 3m**	**A (1)**	**4.9**

Tree No. (tag)	Species (common name)	Age class	Height (m)	Crown Spread (m) :				Crown Clearance	Stem dia. (mm)	Vigour	Amenity Value	Condition	Comments	Recommendations	Ret. Cat. (sub cat.)	RPA (m)
				N	E	S	W									
T21 (098)	***Prunus cerasifera Pissardii*** (Purple Plum)	**mature**	**5**	**3**	**2**	**4.5**	**3**	**1**	**2x 250**	**normal**	**mod/low**	**fair**	**previously failed root plate, but now stable**	**no works required**	**C**	**4.2**
T22 (767)	***Alnus cordata*** (Italian Alder)	**mature**	**11**	**3.5**	**3.5**	**3.5**	**3.5**	**1.5**	**450**	**normal**	**moderate**	**good**	**no comments**	**crown lift to 3m**	**A (1)**	**5.4**
T23 (192)	***Ilex aquifolium*** (Holly)	**mature**	**7**	**3**	**2**	**4**	**3**	**1.5**	**190 110 80**	**normal**	**Mod/low**	**fair**	**Basal damage**	**No works required**	**C**	**2.8**
T24	***Ilex aquifolium*** (Holly)	**mature**	**8**	**3**	**3**	**3**	**3**	**1.5**	**380**	**normal**	**Mod/low**	**fair**	**suppressed**	**No works required**	**C**	**4.5**
T25 (190)	***Crataegus monogyna*** (Hawthorn)	**mature**	**7.5**	**6**	**3.5**	**5**	**6**	**1.5**	**400**	**normal**	**Mod/low**	**fair**	**no comments**	**No works required**	**B (3)**	**4.8**
T26 (100)	***Tilia x europaea*** (common Lime)	**mature**	**25**	**7.5**	**7.5**	**7.5**	**8**	**2**	**900**	**normal**	**Mod/high**	**fair**	**major deadwood throughout crown**	**Remove deadwood**	**B (1)**	**10.8**

GROUPS OF TREES / HEDGEROWS:

Ref. No.	Species (common name)	Age class	Height (m)	Crown Spread (m) : N	E	S	W	Crown Clearance	Stem dia. (mm)	Vigour	Amenity Value	Condition	Comments	Recommendations	Ret. Cat. (sub cat.)	RPA (m)
G1	**2no. *Alnus cordata*** (Italian Alder)	**early mature**	**9**	**see plan**				**2.5**	**avg. 180**	**normal**	**low**	**good**	**no comments**	**no works required**	**C**	**2.2**
G2	**7no. *Prunus avium*** (Wild Cherry)	**early mature**	**avg. 9**	**see plan**				**3**	**avg. 250**	**low**	**low**	**poor**	**varying degrees of crown die-back/decline in all trees**	**REMOVE (although not required for development purposes)**	**U**	**n/a**
G3	**4no. *Crataegus monogyna*** (Hawthorn) + ***1no. Sambucus nigra*** (Elder)	**mature**	**avg. 5**	**see plan**				**1**	**avg. 200**	**normal to low**	**low**	**good/fair to poor**	**Hawthorn to west is dying back**	**Remove all but one Hawthorn to south side of group**	**C**	**2.5**
H1	***Cupressus x leylandii*** (Leyland Cypress)	**early mature**	**3.5**	**4m west**				**0**	**avg. 200**	**normal**	**mod/low**	**fair**	**previously heavily reduced in height, unmaintained on west side**	**Remove to facilitate development**	**C**	**(2.4)**



LEGEND:

U Category Trees - REMOVE

A Category Trees - HIGH QUALITY

B Category Trees - MODERATE QUALITY

C Category Trees - LOW QUALITY

Root Protection Area for A, B & C category trees

Actual Crown Spread of individual & measured Trees

REVISIONS | DATE

PROJECT
Land at
Woodland Manor Hotel
Clapham
Bedford

TITLE
Tree Constraints Plan - Existing

CLIENT
[redacted]

SCALE (@ A0)	DRAWN BY	DATE
1 : 200	RY	May2019

DRAWING NUMBER: Appendix 3A
REV

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TREE PROTECTION PLAN - PROPOSED

Always re-produce this drawing in colour

- U Category Trees - REMOVE
- A Category Trees - HIGH QUALITY
- B Category Trees - MODERATE QUALITY
- C Category Trees - LOW QUALITY
- Root Protection Areas for retained trees
- Actual Crown Spread of trees to be retained
- Crown Spread of trees/hedgerows to be removed
- Tree Protection Fencing - See inset diagram for specification
- Indicative new planting

N

REVISIONS DATE

CONSTRUCTION EXCLUSION ZONE

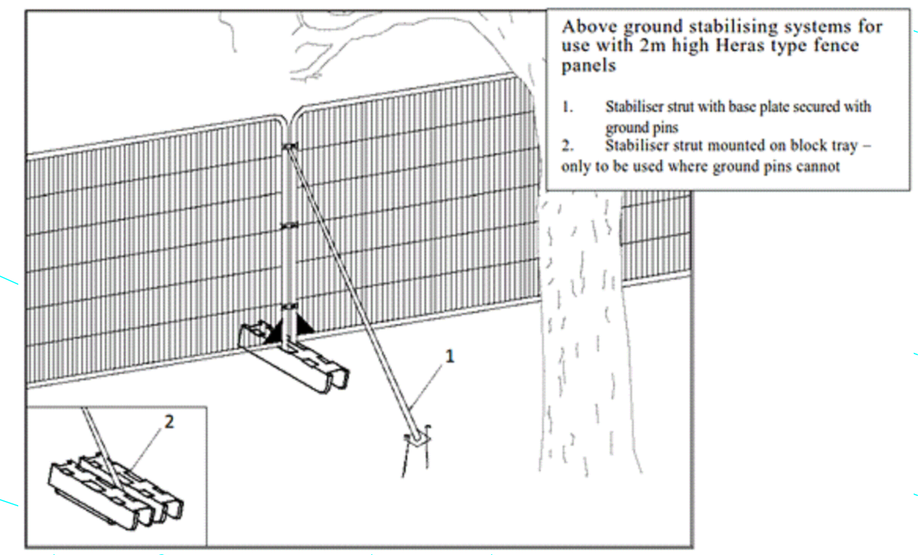
CONSTRUCTION EXCLUSION ZONE

CONSTRUCTION EXCLUSION ZONE

HGV

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 G1 G2 G3 H1

Fig.1 Example of suitable temporary tree protection fencing - Specification



PROJECT

Land at
Woodland Manor Hotel
Clapham
Bedford

TITLE

Tree Protection Plan – Proposed

CLIENT

[redacted]

SCALE (@ A1)	DRAWN BY	DATE
1 : 200	RY	May2019

DRAWING NUMBER REV

Appendix 3B

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APPENDIX 4 **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.*			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 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)	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 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	Mid blue
Category C Trees of **low** quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter of 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 benefits	Trees with no material conservation or other cultural value	Grey