



Arboricultural Implications Assessment and Method Statement



33, Lovedean Lane, Waterloooville

Arboricultural Implications Assessment and Method Statement

33 LOVEDEAN LANE, WATERLOOVILLE

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1 INTRODUCTION

- 1.1 **Instruction:** I am instructed by Wilson Designer Homes Ltd to report on trees that could be affected by a development proposal at 33 Lovedean Lane, WaterlooVille and prepare an Arboricultural Implications Assessment (AIA) and preliminary Arboricultural Method Statement (AMS) to support a planning application on the site.
- 1.2 **Document disclosure:** I was provided with a topographical survey (drawing reference 'Survey 17100'). This showed the positions of the significant trees on or near the site, together with the existing buildings and other important features. Subsequently, I was then also supplied with a copy of the proposed layout, (drawing reference '1775-01') showing a new site configuration.
- 1.3 **Scope of report:** All my tree observations are of a preliminary nature, with the tree survey carried out from ground level without any investigations using invasive or diagnostic equipment. I was not able to fully view all the trees detailed in this report from all directions, as some were located on or near to adjacent private properties. I have therefore confined observations of them to what was visible from within the site. I have not checked the accuracy of the positions of the trees shown on the provided plans and I have estimated all dimensions unless otherwise indicated.
- 1.4 **The Tree Protection Plan:** This is included in Appendix 1 and is a composite drawing derived from the information provided. It shows the existing landscape features (from the land survey) in grey and the proposed layout shown superimposed over the top in blue. This allows the relationship between the two to be clearly seen. The Tree Protection Plan has also been annotated to show protection measures for the trees that could realistically be affected by the proposed development. It shows any activities in Root Protection Areas (RPAs) and if trees are to be removed, they are shown with a red dashed crown outline.
- 1.5 **Qualifications and experience:** This report is based on my site observations, and I have come to my conclusions in the context of my experience as a former local government tree officer and a private practice arboricultural consultant. I have qualifications in both

arboriculture and forestry, and details of these, together with a career summary are provided in Appendix 6.

- 1.6 **Ecological issues and statutory tree protection:** Providing guidance on ecological issues is not within my sphere of expertise. However, trees and other vegetation can often provide nesting, roosting and feeding opportunities for protected species. Therefore, before any tree work proceeds on site, I advise that appropriate advice is sought to see whether the trees to be removed are being utilised by any protected species. At the time of writing, I have made no checks to ascertain whether any of the trees discussed are covered by tree preservation orders, or if the site is located in a conservation area. Therefore, any person intending to carry out any operations involving trees (before a formal planning consent is issued) should consult the council before any works are carried out.

2 SITE VISIT, DESCRIPTIONS, OBSERVATIONS AND SURVEY METHODOLOGY

2.1 **Site visit:** I visited the site on 17 March 2017 to gather my tree data. The weather at the time of my survey was clear, still and dry, with good visibility.

2.2 **Description of site and surrounds:** The site is located in Lovedean Lane, which is situated in the town of WaterlooVille (Figure 1). Number 33 is on the southern side of the road and consists of a single dwelling, positioned toward the front of a wedge shaped plot. The site has car parking and a small garden to the front of the property and a larger area of amenity space to the rear.

2.3 **Observations of trees and other vegetation:** Scattered groups and individual trees are located around the site margin, with a small number of fruit trees located more centrally within the site. The principle arboricultural feature in the immediate locality is a linear formation of three oak trees located along the western site boundary.

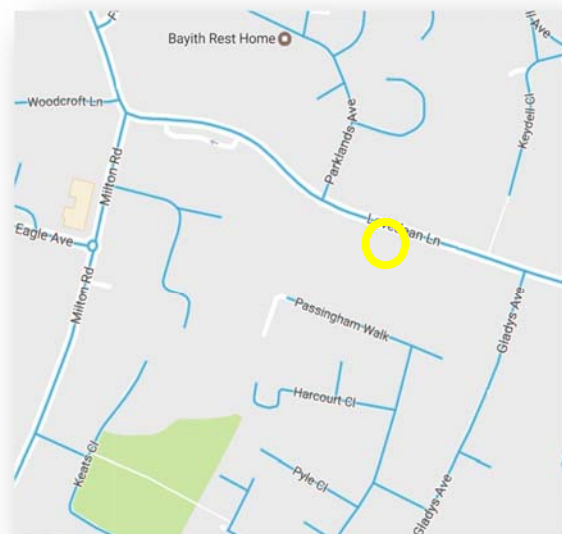


Figure 1: Approximate geographical location of site in yellow

2.4 **Description of proposed development:** This development proposal is to demolish the existing building and construct four new dwellings on the site.

2.5 **Soil assessment:** BS 5837 (2012) advocates that a soil assessment should be carried out to inform decisions relating to Root Protection Areas (RPAs), tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology of Britain viewer and this advises that the bedrock geology for the site is Lambeth Group - Clay, Silt and Sand. I did not undertake any excavations on

site to confirm this and a full geotechnical site investigation may need to be undertaken to provide a more in-depth level of information regarding soil type for the site.

- 2.6 **Tree survey methodology:** My inspection of the trees was visual, and did not involve any climbing or exploratory investigation. During my visit, I identified obvious groups and hedges where this was appropriate and I assigned an identification number to each tree, or group, as shown on the plan in Appendix 1. I then collected the tree data included in Appendix 2 and placed the vegetation in one of four categories (U, A, B or C), as set out in British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations. I have included the BS categorisations in Appendix 5 for easy reference. Where of relevance, I also estimated the crown spreads for each tree at the appropriate cardinal compass points and this information is also shown in the tree schedule in Appendix 2. Although this document is not meant to be a full and detailed report on tree health and safety, any significant visible structural defects or physiological conditions identified, together with preliminary tree works, are also noted in the appropriate columns in the tree schedule in Appendix 2. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.
- 2.7 **Data interpretation:** The Root Protection Area (RPA) calculations are included in Appendix 2. As set out in paragraphs 4.6.2 and 4.6.3 of the BS, the RPAs may have been adjusted as a matter of arboricultural judgement, to indicate the estimated likely position of tree roots. These modified (or unmodified) RPAs dictate the location of the tree protection barriers (which encompass the Construction Exclusion Zones - CEZs) and also determine the position of any ground protection measures. Tree protection details are shown on the plan included in Appendix 1. Where there is a need for incursions into RPAs, an assessment of the implications of these activities is set out in Section 3 (Arboricultural Implications Assessment) of this report. Where appropriate, details of suitable work methodologies to mitigate any impact are set out in Section 5 (Arboricultural Method Statement).

3 ARBORICULTURAL IMPLICATIONS ASSESSMENT

3.1 Overview of the implications of the development proposal on trees: BS 5837 (2012) – Trees in relation to design, demolition and construction – Recommendations sets out in some detail how trees on development sites should be managed. It is generally accepted that Category A (high quality) and Category B (moderate quality) trees are potential constraints on any development proposal, whereas those belonging to Category C (low quality) are considered to be generally less important. Category U trees are in such poor condition that they are considered unsuitable for retention. This is because they cannot realistically be retained as living trees in respect of the current land use for longer than 10 years. Therefore, these trees can be effectively discounted in the context of a planning application.

On this site a total of FIFTEEN individual trees, groups and hedges were recorded during the tree survey and were assigned to the BS 5837 (2012) categories, as set out in Table 1 below:

Category A and B trees	A total of FOUR trees (T1, T2, T3 and T10,) were rated Category B
Category C trees	A total of ELEVEN trees and groups (G4, G5, T6, T7, T8, G9, G11, H12, G13, T14 and H15) were rated Category C
Category U trees	No trees, groups or hedges were rated Category U

Table 1: Tree numbers and BS categories

No Category A trees were recorded during my survey and I have focussed on the implications of the development proposal mainly on the Category B trees on or near the site and also on any Category C trees present. Of the total of FIFTEEN trees, groups and hedges surveyed, FOUR are scheduled to be wholly or partially removed to facilitate this development proposal. Additionally, FOUR other trees/groups will have activities arising from the development occurring in their RPAs. I have summarised the development related implications on trees in Table 2 below and set these aspects out in more detail in the following paragraphs.

Trees to be removed for development		Activities in RPAs arising from the development proposal	
Category A and B	Category C	Category A and B	Category C
n/a	G4,T8, part of G9 and G11	T1, T2, T3 (installation of low invasive driveway and ground protection and T10 (installation of new car port)	G9 (ground protection)

Table 2: Trees lost and activities in RPAs arising from the development proposal

3.2 Direct implications of the development proposal - Tree retention and tree loss

3.2.1 BS Category B trees to be retained (trees of moderate quality): All the Category B trees surveyed will be retained and protected in accordance with the guidance set out in BS 5837 (2012). Consequently, no high or moderate category trees will need to be removed to facilitate this development proposal.

3.2.2 BS Category C trees to be removed (or those of low quality): As discussed, trees belonging to Category C are not normally retained where they would impose a significant constraint on the development or redevelopment of a site. In this instance, FOUR Category C trees/groups (see Table 2) are scheduled to be wholly or partially removed to facilitate the development proposal. I set out my view on the implications of the loss of these trees, as follows:

- **Group G4:** This group of small fruit trees is located internally within the site. In my view, their size suggests that they make a limited contribution to local amenity. I therefore do not believe that their loss will have any particular implications in the locality.
- **Tree T8:** This large tree is located on the southern site boundary and I noted during my visit that it has been severely pruned in the past, presumably to restrict its size. I have shown it to be removed as it would be very close to the position of the proposed new dwelling (Plot 4) and also to provide a better setting for the garden

area of this property. The loss of the tree will be noticeable in the locality, particularly in respect of the existing dwellings to the south of the site. However, I feel it relevant that the tree is not in the very best condition as a result of the previous tree pruning work and it is likely that ongoing tree surgery will be required in the future to further constrain its size. In my view, the gap in the screening along the southern boundary created by its removal could be plugged by new tree and shrub planting, which could be selected to be more in keeping with the proposal to redevelop the site. If this new planting was realised, then any perceived implications would be temporary and only until such time as the new planting begins to mature.

- **Group G9:** A single tree that sits proud of the main group is shown to be removed on the drawing in Appendix 1 as it appears to be under the footprint of the new dwelling. I do not believe that the loss of this tree will be particularly noticeable from outside the site, as most of the trees to the south of its position are scheduled to be retained and will screen its loss to an acceptable level.
- **Group G11:** These two trees are located to the rear (north) of tree T10 and other retained vegetation positioned along the southern boundary. In my view, these trees are of little value, particularly when considered from outside the site, where they are not especially noticeable. I therefore feel that the loss of these trees is also likely to have a limited impact in the locality.

3.3 **Additional implications arising from the development proposal**

3.3.1 **Trees and activities in RPAs:** A number of Category B trees (T1, T2, T3 and T10) and a single Category C group (G9) will have activities arising from the development occurring in their RPAs. My comments on these issues are as follows:

- **New car port and surfacing in RPAs:** Part of the new access drive and a car port (plot 4) are scheduled to be installed within the RPAs of some of the more important trees on site. Additionally, the position of the car port and access will also require a modification to the extent of the full BS 5837 tree protection barrier distances. At the

time this report was written, the exact methodology for the construction of the car port and access drive had not been elucidated.

However, the use of low invasive construction techniques for both access drives and garages in RPAs are well documented and include the use of piled or raft foundations in respect of car ports and cellular confinement sub base systems for access drives. In this instance, I have had discussions with the client and it has been agreed that it would be technically feasible to construct the elements described in such a way as to reduce the implications for the nearby retained trees. Even with the use of such construction techniques, a modification to the extent of the full BS 5837 tree protection barrier distances will be required, with the installation of ground protection needed to protect the extent of the RPA beyond the barriers deployed.

Clearly, additional design work needs to be carried out to ensure that trees scheduled for retention can be safeguarded and maintained in an acceptable condition post development. This detailed design information (including existing and finished levels) could be secured and reviewed by the council by way of a suitably worded planning condition, which in turn could then lead into a final updated and detailed AMS (also secured by condition). In principle, I feel that the position of the new access and car port for Plot 4 need not have significant implications for the long term health and wellbeing of the retained trees, subject to suitable care and consideration being given to these trees during both the design and implementation stages.

- **Ground protection:** The position of the building on Plot 4 is very close to the trees and shrubs along the southern boundary, most of which are scheduled for retention. I have also shown the tree protection barriers in this area set back from the building position to give approximately 1.5m of separation between them and the edge of the new building. This is to provide room for the positioning of scaffolding and to allow suitable space for the movement of materials and personnel around the new building during its construction.

I think it likely that some tree and shrub pruning work will be needed to clear the scaffolding of obstructions, but the exact extent of this will need to be assessed on

site at the appropriate time. However, in my view, any visual impact arising from such pruning activities is likely to be limited, as from outside the site the canopies of the trees will remain unchanged. The position of the building will impinge slightly on the RPAs of some of the trees in G9, but the trees are relatively young and in my view this disturbance is likely to have a low risk of any long term impact on their health and wellbeing.

- 3.4 **Protection of trees during construction:** A preliminary Arboricultural Method Statement is included in Section 5 and it details the various issues associated with successful tree protection in a development context on this site. If deemed appropriate by the council, this can be updated in due course in response to a suitably worded planning condition attached to any subsequent consent and to cover the installation of the new access and car port.

4 SUMMARY OF THE IMPLICATIONS OF THE DEVELOPMENT ON TREES

- 4.1 **Summary.** Of the total of FIFTEEN trees, groups and hedges surveyed, FOUR are scheduled to be wholly or partially removed to facilitate this development proposal. Additionally, FOUR trees/groups will have activities arising from the development occurring in their RPAs. The trees to be removed are mostly small in size and positioned to the rear (north) of trees to be retained. Consequently, it is envisaged that their removal is likely to have limited impact in the locality. Additional activities are proposed within the RPAs of trees to be retained and full engineering detail needs to be reviewed and agreed with all parties prior to the commencement of construction activities. However, I feel that provided appropriate care is taken with the design, and the construction work is carried out diligently, then the proposed development is arboriculturally acceptable, with a relatively low risk of any adverse impact on any trees scheduled for retention.

5 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1 Tree protection issues

- 5.1.1 Tree Protection Plan (TPP):** The plan in Appendix 1 is illustrative, but is based on the layout drawings and topographical survey provided. Therefore, all scaled measurements should be checked against the original design documents. The attached plan and all other information in this report should only be used for dealing with the tree protection issues and all other uses are prohibited, unless authorised by Ecourban Ltd. Normally, all the existing trees will have been numbered, with higher categories (A and B) highlighted in green and blue rectangles and low categories (C and U) highlighted in grey and red respectively. However, on this site no Category A or U trees were recorded. The plan also shows the locations of the proposed protective measures, including areas highlighted where additional design work is required and where special care is required at the implementation stage. Additionally, any trees to be removed are indicated with a red dashed crown outline. The TPP is an important document, and a copy of it should be kept on site for reference whilst the development is under construction.
- 5.1.2 Protective barriers:** Information on barrier design based on BS 5837 (2012) guidance is included in Appendix 3 and the approximate location of the barriers is illustrated on the plan in Appendix 1. The protective barriers will be erected before any materials or machinery are brought onto the site, and before any clearance or construction activities occur. Once the protective barriers have been positioned, these will stay in situ for the duration of the construction, unless previously agreed with the arboricultural consultant or council's tree officer. There will be no access into the protected area and the storage of excavated debris and building materials will be prohibited in RPAs, unless authorised by the arboricultural consultant, after discussion with the council's tree officer. No fires or fuel storage will be allowed within or near to protected areas under any circumstances.
- 5.1.3 Ground protection:** The position of ground protection is shown on the plan included in Appendix 1, with guidance for ground protection design from BS 5837 (2012) included in Appendix 4. The ground protection will be installed before any materials or machinery are brought onto the site, and prior to any clearance or construction activities occurring.

In this instance it is proposed that the ground protection will consist of closely spaced scaffold boards over a compressible layer.

5.2 **Arboriculturally sensitive operations**

5.2.1 **Installation of new surfacing within RPAs:** Full engineering details to be provided and reviewed and this section of report to be updated accordingly in response to planning conditions imposed by the council.

5.2.2 **Installation of new car port (Plot 4):** Full engineering details to be provided and reviewed and this section of report to be updated accordingly in response to planning conditions imposed by the council.

5.3 **Additional tree-related issues**

5.3.1 **Site supervision:** Site personnel will be properly briefed regarding the tree protection issues before any work starts, and the tree protection will be inspected periodically to ensure the retained trees are protected in accordance with this document and any conditions imposed by the council.

5.3.2 **Storage of materials, cement mixing and washing points:** All construction storage areas, cement mixing and washing points for equipment and vehicles will be outside RPAs, unless otherwise agreed with the council.

5.3.3 **Contractors car parking, site offices and welfare facilities:** Whilst it is possible to have site offices and welfare facilities within RPAs, care is needed in their positioning and also in the connection of water, electricity and drainage to service them. Therefore, these will generally be sited outside the RPAs, unless agreed previously with the council. Contractor's car parking facilities will also be located away from retained trees.

5.3.4 **Tree works:** Any tree pruning or tree removal operations are set out in the tree schedule included in Appendix 2. Additionally, those trees scheduled for removal are also shown on the Tree Protection Plan included in Appendix 1.

5.3.5 Planning, communication and preliminary timing of events: It is not unusual for the details of timing of operations that could impact on important trees to only be finalised once planning consent has been given. Site managers, clearance and construction teams, and other important personnel are normally only appointed at this stage and it is these people who will be crucial in delivering the tree protection detailed in this report. My experience is that the pre commencement site meeting is critical in terms of avoiding damage to trees and this particular aspect, along with tree protection issues should be specifically referenced in a suitably worded planning condition imposed by the council. In the intervening time I propose the following preliminary cascading timetable of events to help minimise any risk of impact on important trees. However, the following schedule may be modified at the pre-commencement meeting, subject to discussion with all parties and agreement with the council:

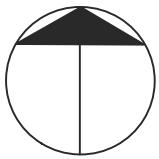
1. Pre-commencement site meeting
2. Extent of arboricultural supervision agreed
3. Tree works undertaken
4. Protective barriers erected before any clearance or construction activities occur on site and notification to the council that this is in place
5. Ground protection installed before any clearance or construction activities occur on site and notification to the council that this is in place
6. Installation of new surfacing – Where this is to also act as ground protection, this must be installed before any clearance or construction activities occur on site
7. Installation of new structures
8. Tree protection only removed at the end of the construction phase when there is no longer any risk to trees

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Arboricultural Consultant

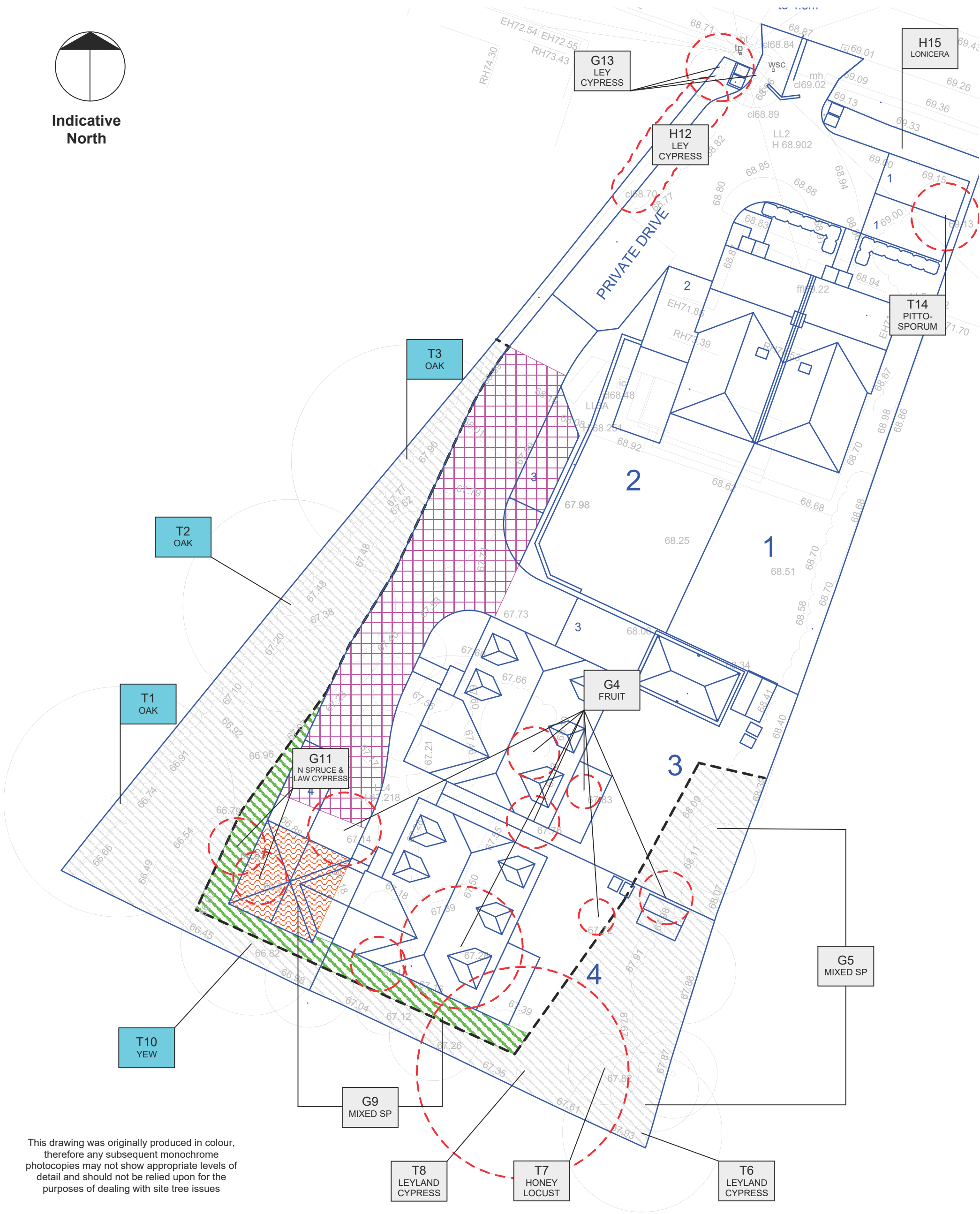
Date: **24 April 2017**

APPENDIX 1: TREE PROTECTION PLAN

1 A3 plan



Indicative
North



This drawing was originally produced in colour,
therefore any subsequent monochrome
photocopies may not show appropriate levels of
detail and should not be relied upon for the
purposes of dealing with site tree issues

	ECO 4 - TREE PROTECTION AT 33 LOVEDEAN LANE, WATERLOOVILLE	SCALE: 1:200 @ A3	COMPOSITE PLAN: LAND SURVEY IN GREY, PROPOSED LAYOUT IN BLUE
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 T1 Tree sp	BS Category B: Trees of moderate quality and value	 Tree protective barriers with construction exclusion zone	 RPA outside barriers where 'Low Invasive' type surfacing is to be installed	 Trees to be removed
 T1 Tree sp	BS Category C: Trees of low quality and value	 RPA outside barriers requiring ground protection	 RPA outside barriers where new car port is to be installed	

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Background fill colour represents BS 5837 (2012) categories: A Category trees have green backgrounds, B Category trees have light blue backgrounds, C Category trees have grey backgrounds and U Category trees have red backgrounds.

Tree No.	Species	Ht (m)	Single stem diameter at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (Multi Stem)								Branch Spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat.	RPA area (m²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia (cm)	No. of stems	N	E	S	W							
All Trees																			Where appropriate, crown lift to 4m over site, crown clean canopies and cut back to give 2m clearance from buildings				
T1	Oak	19	70	*	-	-	-	-	-	-	-	-	6	7	6	-	4	M	Crown reduced previously.		B1	222	8.4
T2	Oak	18	83	-	-	-	-	-	-	-	-	-	4	5	5	-	4	M	Crown reduced previously, epicormic growth on main stem.		B1	312	10.0
T3	Oak	16	70	-	-	-	-	-	-	-	-	-	5	6	4	-	4	M	Crown reduced previously.		B1	222	8.4
G4	Fruit	5	23	-	-	-	-	-	-	-	-	-	3	3	3	3	2	MA/M	Small fruit trees.	Fell to facilitate the development	C1	24	2.8
G5	Mixed species including Lawson cypress, apple, pittosporum, yew and hornbeam	10	28	-	-	-	-	-	-	-	-	-	2	2	1	-	2	Y/MA	Mixed species boundary planting.		C1	35	3.4

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Tree No.	Species	Ht (m)	Single stem diameter at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (Multi Stem)								Branch Spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat.	RPA area (m²)	RPA radius (m)
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia (cm)	No. of stems	N	E	S	W							
T6	Leyland cypress	10	70	*	-	-	-	-	-	-	-	-	3	-	3	3	3	M	Unremarkable domestic conifer planting. Topped out.		C1	222	8.4
T7	Honey locust	13	21	-	-	-	-	-	-	-	-	-	3	3	1	1	7	Y/MA	Tall drawn up form, influenced by proximity to adjacent trees		C1	20	2.5
T8	Leyland cypress	12	68	-	-	-	-	-	-	-	-	-	5	4	-	5	3	M	Unremarkable domestic conifer planting. Topped out.	Fell to facilitate the development	C1	209	8.2
G9	Mixed species including Lawson cypress, laurel and goat willow	11	-	-	22	20	7	9	-	32	-	-	2	2	-	2	2	Y/MA	Mixed species boundary planting.	Remove part of group to facilitate the development	C1	46	3.8
T10	Yew	8	30	-	-	-	-	-	-	-	-	-	2	3	-	3	2	MA	Maturing boundary tree.		B1	41	3.6
G11	Lawson cypress and Norway spruce	9	24	-	-	-	-	-	-	-	-	-	2	2	2	2	2	Y	Unremarkable domestic conifer type planting.	Fell to facilitate the development	C1	26	2.9
H12	Leyland cypress	2	10	-	-	-	-	-	-	-	-	-	-	1	-	-	n/a	Y/MA	Clipped boundary hedge.		C1	5	1.2

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Tree No.	Species	Ht (m)	Single stem diameter at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (Multi Stem)							Branch Spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat.	RPA area (m²)	RPA radius (m)	
					Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
					1	2	3	4	5		Mean stem dia (cm)	No. of stems	N	E	S								W
G13	Lawson cypress	10	30	-	-	-	-	-	-	-	-	-	3	3	3	3	4	MA	Unremarkable domestic conifer planting. Poor structural framework and declining.		C1	41	3.6
T14	Pittosporum	5	-	*	-	-	-	-	-	-	3	10	2	2	2	2	2	Y/MA	Small tree.		C1	4	1.1
H15	Honeysuckle privet	1	10	*	-	-	-	-	-	-	-	-	1	-	1	-	n/a	M	Clipped ornamental hedge.		C1	5	1.2

ABBREVIATIONS:

Abbreviations	Meaning	Abbreviations	Meaning	Abbreviations	Meaning
T	Individual tree	M	Mature	RPA	Root Protection Area
G	Groups of trees	MA	Maturing	<	Less than
H	Hedge	Y	Young	>	More than

APPENDIX 2: TREE SCHEDULE AND INVENTORY

TREE SCHEDULE GUIDANCE NOTES:

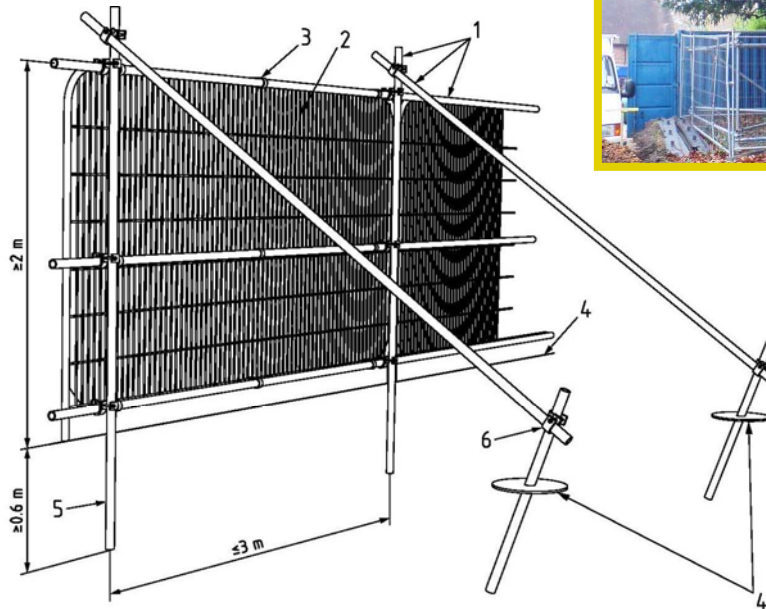
Tree number	Assigned during the site visit and also referenced on the plan in Appendix 1.
Species	Common name and referenced to scientific name in the above list. Where I have some doubt over the actual tree species, the genus will have been noted followed by sp. Where trees are numerous and present in groups, not every individual species may have been noted.
Height	Measurement of total tree height using a laser hypsometer to nearest metre or where clear line of site is not possible then an estimate based on interpolation of heights of nearby measured trees.
Stem diameters	Measurement of stem diameter either at 1.5m above ground (or in accordance with BS guidance where trees have multiple stems) with a forester's girth measuring tape. Diameters followed by asterisk symbol indicate estimated diameters because of access difficulties, presence of ivy or other obstructions. Where trees are present in a group, the tree with the largest stem diameter within the group will have been measured/estimated.
Est. Dia.	Estimated diameters due to access restrictions are indicated with an asterisk
Branch spread	Where appropriate and where ground conditions allow, an estimate of the crown spread at each of the cardinal compass points. Where only part of the site is affected by trees, measurement may be in one or two directions only
Existing height above ground level	Distance in metres to first significant branch or canopy or a height above which crown lifting operations would not be appropriate
Age class	Simplistic estimate of tree age in one of FOUR categories (young, maturing, mature or over mature).
Notes	Although this document is not intended to be a full and detailed report on tree health and safety, any significant structural defects or physiological conditions have been identified where these were visible. Where no entries are recorded, this indicates no observable issues were identified. Where there is restricted access to the base of a tree, its attributes are assessed from the nearest point of access. Climbing inspections are not carried out during a walkover tree survey and, if heavy ivy is present, tree condition is assessed from what can be seen from the ground.
Management proposals	The inspection of all trees was of a preliminary nature and only defects visible from the ground have been identified. Each individual tree may not have been inspected closely because of access difficulties and only defects visible from the inspection point have been identified. Monitoring may be indicated where tree risk can be adequately managed by increased frequency of site inspections. Further investigation may be indicated where additional data may be required beyond a purely visual assessment. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.
BS 5837 (2012) Category	Either U, A, B or C based on the BS 5837 (2012) guidance.
RPA and RPA radius	RPA and RPA radius calculations have been undertaken in accordance with the guidance set out in BS 5837 (2012).

APPENDIX 2: TREE SCHEDULE AND INVENTORY

TREE INVENTORY:

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Apple	<i>Malus domestica</i>		Lawson cypress	<i>Chamaecyparis lawsoniana</i>
Fruit	<i>Malus</i> sp, <i>Prunus</i> sp or <i>Pyrus</i> sp		Leyland cypress	x <i>Cupressocyparis leylandii</i>
Goat willow	<i>Salix caprea</i>		Norway spruce	<i>Picea abies</i>
Honeysuckle privet	<i>Lonicera pileta</i>		Oak	<i>Quercus robur</i>
Hornbeam	<i>Carpinus betulus</i>		Pittosporum sp	<i>Pittosporum</i> sp
Honey locust	<i>Gleditsia triacanthos</i>		Yew	<i>Taxus baccata</i>
Laurel	<i>Prunus laurocerasus</i>			

APPENDIX 3: ILLUSTRATIVE SPECIFICATION FOR TREE PROTECTION BARRIERS



Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

Illustration taken from British Standard 5837 (2012): Trees in relation to design, demolition and construction – Recommendations.

The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed.

– BS 5837 (2012)

Ref: Tree Protection Barriers (Type 1)	Drawing No. TPB1
Scale: N/A	

APPENDIX 4: ILLUSTRATIVE SPECIFICATION FOR GROUND SURFACE PROTECTION IN RPAs



Photograph 1



Photograph 2 (courtesy
www.groundtrax.com)

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

- a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame (**Photograph 1**), so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;
- b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards (**Photograph 2**), placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;
- c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

– BS 5837 (2012)

Ref: Ground Protection	Drawing No. GP1
Scale: N/A	

APPENDIX 5: BS 5837 (2012) – ASSESSMENT CATEGORIES

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
<u>Category U</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.</i>			RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria — Subcategories			Identification on plan
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<u>Category A</u> Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	GREEN
<u>Category B</u> Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation)	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	BLUE
<u>Category C</u> Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY

APPENDIX 6: QUALIFICATIONS AND EXPERIENCE OF BARRIE DRAPER

- 1 Qualifications:** I have a BSc degree (with Honours) in Arboriculture from the University of Central Lancashire. I also hold a BTEC Higher National Diploma (HND) in Forestry (Lowland Management), the Arboricultural Association's Technician's Certificate in Arboriculture (Tech Cert), the Royal Forestry Society's Certificate in Arboriculture (Cert Arb) and the National Examinations Board Certificate in Forestry.
- 2 Career experience:** I began my arboricultural career in 1993 as an arborist with Portsmouth City Council. During my time with the council I worked for both the direct labour organisation and for a private contractor where I obtained valuable hands on experience in all aspects of arboriculture. From 1999 to 2002 I was employed as Senior Arborist by Parchment Housing Group, a housing association based near Portsmouth. I managed the Groups' tree stock on their behalf, carrying out tree inspections and practical management operations. I have also worked in local government, spending time with Thurrock Borough Council in Essex where I was the Tree and Landscape Officer, and with Winchester City Council, where I was Arboricultural Officer for a period of 2 years. During my time working in local government I was responsible for making Tree Preservation Orders, administering applications to work on protected trees and advising on planning applications when trees were considered material constraints on development. Working within a planning environment allowed me to gain valuable experience in the management of trees in development situations and an understanding of the planning process and how it relates to trees. From January 2005 I worked for Barrell Tree Consultancy Ltd advising clients on a wide range of tree related issues. I left the company in September 2008 and set up ecourban ltd, where I am currently the sole practitioner.



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