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Arboricultural Report

BS 5837:2012 Tree Survey

& Arboricultural Impact Assessment

Land at:

"Winds Up" Old Seaview Lane, Seaview

Prepared by: Andrew Southcott

Date: 20th April 2023

Ref: AS/RI/0423

Contents

Validation Statement for Local Planning Authority (LPA) Registration

This report is intended to be submitted to the Isle of Wight Council in support of a planning application. The report contains tree information relevant to the proposed development. For LPA validation purposes, this report contains the following information:

- A full tree survey compliant to the requirements of BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations", undertaken by a competent and qualified arboriculturist.
- A suitably scaled plan with north point showing the site boundaries and the tree survey information.
- An assessment of the impacts of the proposed development on the existing trees, including recommendations of which trees should be removed/retained.

1. INTRODUCTION

1.1 **Instruction:** I am instructed to survey trees that could affect or be affected by the proposal on land at "Winds Up" Old Seaview Lane, Seaview. This report, in compliance with BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations" (herein referred to as BS5837) is required to accompany the submission of a planning application for domestic alterations to the existing dwelling on site. My instruction is to prepare the following information:

- A schedule of the relevant trees and all tree data as required by BS5837.
- A Tree Survey & Constraints Plan (TSCP)
- An Arboricultural Impact Assessment (AIA)

1.2 **Information provided:** Drawing AS/RI/0423 TSCP is derived from the following drawing as supplied to me by Elmstone Design LLP:

- *S1534-PL-01 Block & Location Plans* in DWG/PDF formats.

1.3 **Purpose and scope of this advice:** The tree survey and report have been produced both to assist the design process and to support the planning application process. It is intended to demonstrate the site's arboricultural constraints and to make recommendations regarding the potential impact of the proposal on the trees and vice versa. It focuses on all trees that may affect or be affected by the development proposal, whether within the site boundary or off-site.

1.4 **Limitations:**

1.4.1 The survey was a preliminary assessment undertaken from ground level, and limited by boundaries, vegetation and other features on site. Observations have been made solely for the purposes of assessment relevant to the planning process, and the report is not a condition survey or safety inspection. Where obvious risks have been observed they have been highlighted in the "preliminary management recommendations" of the tree survey schedule, however potential hazards and their severity are likely to change as the site changes. Binoculars, sounding mallet and probe have been used to aid tree assessment; no invasive or non-invasive internal decay detection equipment have been used in assessing the trees. If more detailed inspections are required, this will be highlighted in the recommendations.

1.4.2 The recommendations and conclusions in this report relate only to the conditions found on site at the time of the inspection, as trees are dynamic organisms whose health and condition can change rapidly. The findings are valid for a period of 12 months from the date of report providing the site remains as it stands at present. Any significant changes to the site which may affect the trees (such as building works, changes in levels, hydrology etc.) would require a re-assessment of the trees.

1.4.3 This report is intended for use solely by the client and their agent if applicable, and not for the benefit of any third party. Anyone not directly involved with this site shall not have any rights in connection with it. No part may be reproduced in any form without the written consent of Woodside Tree Consultancy.

1.5 **Ecological Constraints:** The Wildlife and Countryside Act 1981 and amendments made within and subsequent to the Countryside and Rights of Way Act 2000 provides statutory protection to bats, birds and other species that inhabit or use trees. The protection afforded to such species could impose significant constraints on the use of a particular site, as well as restrict the timing of any works that may be necessary. Any such restrictions are in addition to arboricultural constraints in this report.

1.6 **Status of the trees:** Having searched the IW Council Core Strategy Proposal Map on 19th April 2023, it shows that there is one Tree Preservation Order affecting the site and/or trees considered within this report. TPO 1986/31 individually covers two oak trees to the front of this and the adjacent property (the trees identified as T1 and T2 in this report).

2. SITE VISIT AND TREE SURVEY

2.1 **Site visit:** I visited the site on 19th April 2023, with the weather at the time of survey being fine and in no way hindered my ability to view the trees satisfactorily. All observations were made from accessible points at ground level, with all measurements except stem diameter being estimated unless otherwise indicated in the Tree Survey Schedule and Notes.

2.2 **Site Description:** The site is an established residential curtilage, including lawns, shrub borders, dwelling and hard standing. The most significant tree cover is the mature protected oak in the front garden (along with the off-site neighbouring oak). There is only one other small tree in the rear garden, as well as some shrubs and newly planted saplings. Adjacent vegetation cover nearest to the proposed side extension was also included, however this is all likely to be removed as part of recent planning consent for the neighbouring site. The area covered in this survey measures approximately 0.06ha as shown in Figure 1.

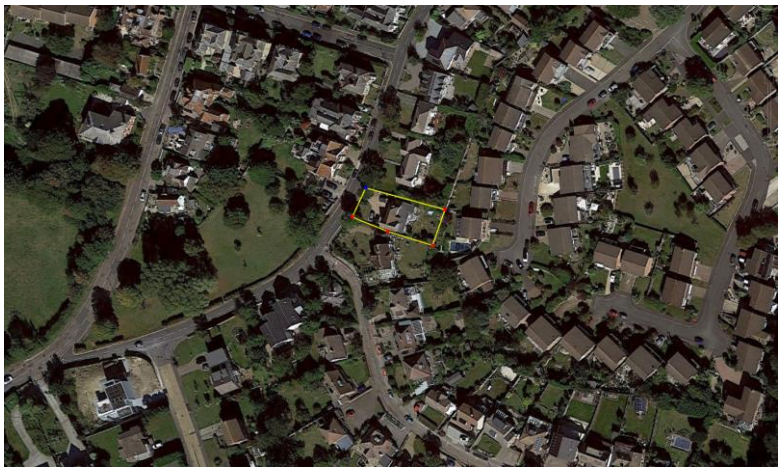

Figure 1. Aerial view showing the site covered within this survey (Google 2023)

2.3 **Data Collection:** Each relevant tree or group was inspected and allocated an identification number as indicated in the Tree Survey Schedule (Appendix 1) and tree survey plan (Appendix 4). They were allocated one of four categories (A, B, C or U) in line with BS5837 recommendations (see Appendix 3) as well as having the following important information collected:

- Species, Height (m) and stem diameter (mm)
- Average crown spread to the 4 cardinal points (m)
- Average canopy clearance; height and orientation of first significant branch
- Life stage, condition and preliminary management recommendations
- Remaining safe useful life expectancy; Root Protection Area calculations

2.4 **Root Protection Areas:**

2.4.1 In accordance with section 4.6 of BS5837, the stem diameter measurements have been used to calculate the Root Protection Area (RPA), both in terms of radial distance from the tree and as an area in m^2. The RPA is the area that should ideally remain free from disturbance by adjacent construction works, as it is deemed to be the minimum area around a tree required to maintain sufficient rooting volume to sustain the tree's vitality. Therefore the adequate protection of the roots and soil structure in this area must be treated as a priority.

2.4.2 The calculated extent of the RPA is used to identify any design constraints within the site, and is visually represented on the Tree Survey & Constraints Plan (TSCP - Appendix 4). The TSCP shows the above-ground constraints (*i.e*. branch spread), and the below-ground constraints (the anticipated extent of significant root spread depicted as the calculated RPAs).

2.5 **Tree survey:** Four individual trees and one group were surveyed and assessed for their suitability for retention. Refer to appendices 1 & 4 for details of their identity, location and assessment. Please also refer to the Tree Survey Schedule Notes (Appendix 2) and BS5837 Cascade Chart (Appendix 3) for full details of the assessment criteria.

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 **General observations:** The largest and most prominent tree was the mature oak along the roadside frontage. A further mature oak as well as a swamp cypress, both located in neighbouring front gardens, were included in the survey as their root spreads will overlap this site. Some adjacent shrubbery and small tree cover alongside the N boundary were included due to proximity to the proposed works, as well as a smaller landscaping tree in the rear garden; although none of this vegetation was of high quality or public amenity value.

3.2 **Below ground constraints (Root Protection Areas):**

3.2.1 This section deals with tree roots, which can easily be overlooked during construction operations due to being hidden and often their importance, and that of the soil around them, is not fully understood. It is essential that the roots remain undamaged during the site preparation and construction phases, as they provide the structural stability as well as transporting water and nutrients throughout the tree. Crucially they cannot perform their functions effectively if the soil structure around them is also damaged, which is why the RPAs must be adequately protected.

3.2.2 The TSCP visually represents the required RPA for each retained tree as a magenta circle centred on its stem. In reality the spread of roots for trees in an urban

environment will rarely be distributed in a perfect circle as the environment below ground level is highly variable. The presence of structural foundations, pipes, impermeable surface coverings and differing soil conditions mean that tree roots will extend in to areas that offer a preferential environment; where water is most available and the soil is least compacted.

3.2.3 In consideration of the above, the RPAs of T1-3 have been adjusted (offset by 20% away from the road), due to the long established presence of tarmacadam surfacing on that side of the trees. The compacted sub-base and impermeable surface of the road and pavement are poor environments for tree roots so I anticipate fewer roots will be present on this side of the trees. In respect of T2, it should also be noted that the ground conditions within the site are only marginally better due to the long established coverage of a compacted gravel parking area, as well as lowered ground level with dwarf stone retaining walls around the perimeter (including close to the tree itself). Therefore in reality the majority of feeding roots are likely to be biased to the NE within the neighbouring lawn garden, which provides a preferential area for tree root development. The overall area of these theoretical RPAs have not been reduced.

3.2.4 The proposed alterations, with the footprint coverage shown on the TSCP, will be outside of all the nearest RPAs, including those being offset due to the adjacent road. At the front of the dwelling, the side extension will extend slightly further than the existing frontage, however this will still be clear of the RPAs of T1-2. Furthermore, the existing surfacing and hard landscaping in the front garden will remain unaffected as part of these works. At the rear southern corner, the extension will have no additional impact near to T4 as the works are at first floor level only, with the existing decking/surfacing in the rear corner remaining in place.

3.2.5 To ensure that RPAs are adequately protected from other potentially damaging actions such as storage of materials/plant, temporary site buildings, changes in levels etc., the full extent of the RPAs not covered by existing hard surfacing should have protective fencing and/or temporary ground protection erected in line with BS5837 for the duration of site works.

3.3 **Above ground constraints (branch spread):**

3.3.1 Trees in close proximity to buildings can pose some constraints, both real and perceived. Actual constraints occur where branches can conflict with new elevations, either now or in future. For this reason newly planted trees as well as younger existing trees need to be fully accounted for in the design and layout planning. Other significant constraints that are often overlooked include shading, leaf litter and damage from falling branches. However it should also be remembered that a degree of shading can be desirable to reduce glare and provide comfort during hot weather.

3.3.2 The TSCP shows that the retained tree canopies will all have ample clearance from proposed alterations. The vegetation identified as G1 is shown dashed as this is all likely to be removed as part of the recently approved re-development of the neighbouring site. However, even if this were to remain in situ for the time being,

sufficient clearance already exists between the proposed extended side elevation and this low quality shrubbery in the neighbouring garden.

3.3.3 The only possible canopy conflict would be from access of larger vehicles/loads in relation to the works, where the current crown growth of T2 partially overhangs the access gate. However, this is very limited and relates only to minor epicormic shoots from a lower height on the bole, and some small regrowth shoots from a previously reduced low limb over the roadside. It is therefore recommended that this minor growth is pruned back for clearance over the access point to avoid potential harm to the tree resulting from construction-related access. Such work would likely become necessary anyway in the near future due to its low height over the access which could obstruct normal vehicle movements regardless of the proposed works. Figure 2 identifies these areas of recommended pruning. As this is all minor growth, located low in the crown, and from previous pruning points; it is not considered that such work would be detrimental to the amenity value and ongoing health of the tree.

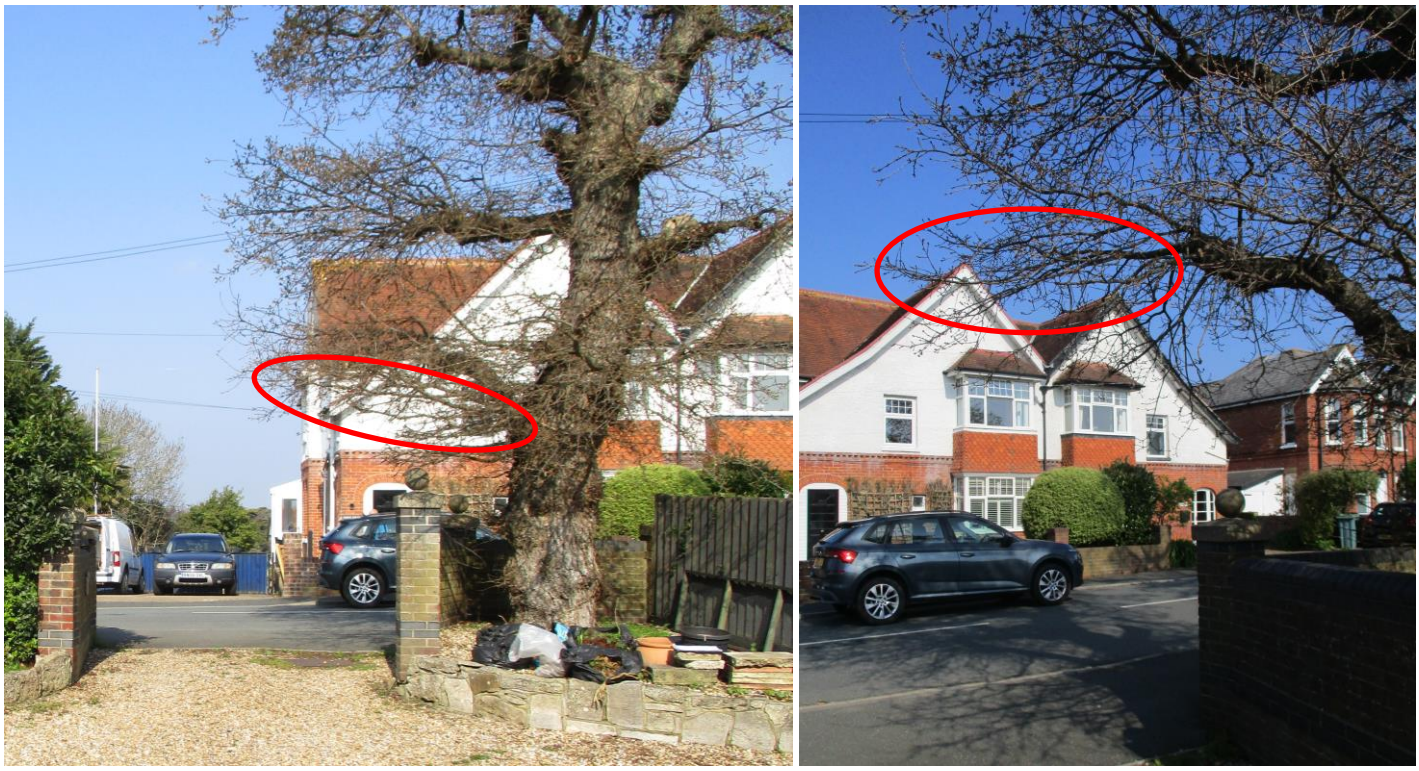

Figure 2. Views of T2 showing minor low growing epicormic shoots from bole (left) and also limb regrowth shoots (right) growing over access point; recommended to be pruned back to prevent conflict during works

3.3.4 The potential issues of shading or leaf litter are not considered to be a relevant constraint in this case, as the positioning of retained trees are well away from the alterations, and the scheme would not significantly alter the existing site conditions in relation to tree cover. Although the vegetation in G1 would if retained in the short-term be in closer proximity to the dwelling as a result of the scheme, this is all shrubbery of a low height, located to the N of the site, and therefore of no significance in terms of potential shade or leaf/debris issues.

3.4 **Trees to be retained:**

3.4.1 All trees would be retained, aside from the likely removal of G1 as previously discussed, however that is not in relation to this scheme. Access to the site during preparation and installation phases must be managed to protect the existing trees being retained. Sufficient space should be available for construction plant and materials outside the RPAs of retained trees. However if any conflicts are foreseen then alternative arrangements must be made, in consultation with the project arboriculturist and local authority.

3.4.2 Tree protection on development sites is of paramount importance if trees are to be retained successfully. The inevitable stress caused by development near existing trees can, if provision for adequate protection is not made, be a significant strain leading to severe damage and even death of a tree. It is important to note that although trees will appear healthy during and on completion of a development, the full effects of below ground damage may not become apparent for five years or more after the works have finished.

3.5 **Tree work:** It is recommended that some minor pruning of T2 is carried out as discussed above, in order to facilitate access without potential conflict with its foliage shoots. As a protected tree, such works should be subject to the prior agreement of the LPA as part of this application. All work should be kept to a minimum, and carried out by competent and insured arboricultural contractors in accordance with BS3998:2010.

4. CONCLUSIONS & RECOMMENDATIONS

4.1 The design proposals for residential alterations at Winds Up, Old Seaview Lane, Seaview have been assessed in accordance with BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations". It is my opinion that all trees can be afforded due respect and provided with adequate protection, to ensure their safe and healthy retention during and following the development process.

4.2 It is recommended that minor facilitation pruning is carried out as discussed above, in order to prevent potential damage to T2 resulting from construction-related access during the works.

Andrew Southcott
20th April 2023

Appendix 1 - BS5837: 2012 Tree Survey Schedule

Tree No.	Species	Height (m)	Stem Diameters (mm)								Branch Spread (m)				Crown Clearance (m)	Height & direction of 1st signif. limb	Age Class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Est. Remaining Contribution (yrs)	BS5837 Category Rating	Root Protection Radius (m)	RPA (m^2)
			Single Stem	2-5 stems					5> stems		N	E	S	W										
				Stem 1	stem 2	stem 3	stem 4	stem 5	Mean Dia.	No. Stems														
1	Oak	8.5	830								5.5	5	4	5	2	4r	M	F	Off-site, thin crown, previously reduced, deadwood (dwd), ivy.		20-40	B1	9.96	311.7
2	Oak	8	740								3	3.5	3	4	2.5	4r	M	F	Frontage tree surrounded by boundary wall and dwarf stone border wall, very restricted growth habit and position, extensive epicormic shoots, dwd.	May require removal of lower epicormic shoots over access gate to provide additional height clearance for vehicles.	20-40	B1	8.88	247.7
3	Swamp cypress	10	480 #								4.5	4.5	4	5	4	3.5r	EM	G	Off-site, inaccessible, plotted for possible rooting constraints, good form, dwd & hung up branching, some damage to boundary wall.		20-40	B1	5.76	104.2
4	Cordyline	4	210								1.5	1.5	1.5	1.5	2.5	2r	EM	F	Small rear garden landscaping to be retained, no wider significance.		10-20	C2	2.52	20
G1	Bay, laurel, hazel, cherry plum, birch	av. 5	Various as plotted on TSCP								Various as plotted on TSCP				0	0r	SM	P	Individually small trees and larger shrubs forming visual screen in neighbouring garden.	All in proximity to this site are to be removed as part of an adjacent approved development.	10-20	C2	Various as plotted on TSCP	

Appendix 2 - Tree Survey Explanatory Notes

1 **Height** describes the estimated height of the tree from ground level, to nearest 0.5m (nearest 1m where total height exceeds 10m). Where practicable a clinometer is used to aid accuracy.

2 **Stem diameter** is the diameter of the main stem(s) measured in millimetres (to nearest 10mm) at 1.5m above ground level in accordance with Annex C of BS 5837:2012. Stem diameter may be estimated where access is restricted or the trunk is covered in ivy. Estimated dimensions are suffixed with a hash (#).

3 **Branch spread** refers to the approximate crown radius in metres (rounded up to nearest 0.5m) from the centre of the trunk at the four cardinal points.

4 **Crown clearance** is the average height in metres (to nearest 0.5m) of crown clearance above adjacent ground level. Where access is restricted this may be estimated.

5 **Height & direction of first limb** in metres above ground level where relevant; section 4.4.2.5 of BS5837 states this should be recorded to fully inform on potential ground clearance issues.

6 **Age Class** is as follows: **Y** = young trees up to 10 years old; **SM** = semi-mature trees less than 1/3 life expectancy; **EM** = early-mature trees 1/3 to 2/3 life expectancy; **M** = mature trees over 2/3 life expectancy; **OM** = over-mature trees in decline; **V** = veteran tree possessing certain attributes relating to veteran trees.

7 **Physiological Condition** is either: **Good** (trees with only a few minor defects and in good overall health); **Fair** (trees with minor, but rectifiable, defects or in the early stages of stress from which it may recover); **Poor** (trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term); **Dead** (this could also apply to trees that are dying and unlikely to recover). This part of the assessment is essentially a snapshot of the trees' general health based on its appearance, vigour, and presence of any potential symptoms of poor health.

8 **Structural Condition** includes consideration of a range of factors including the presence of fungal fruiting bodies, cavities, decay and damage, condition/movement of soil around the tree base, growth habit, biomechanical related defects.

9 **Preliminary Management Recommendations** are focused on what is relevant in terms of the proposed development, as well as any obvious major issues that need addressing. The survey is not a condition or safety inspection so should not be relied upon as such.

10 **Estimated Remaining Contribution** is the approximate number of years the tree will continue to make a beneficial contribution without the need for oppressive arboricultural intervention, categorised as **<10**, **10-20**, **20-40** and **>40**.

11 **BS Category Rating** refers to BS 5837:2012 Table 1. This relates to tree/group quality and value, where **A** are trees of high quality with an estimated remaining life expectancy of at least 40 years, **B** are trees of moderate quality with an estimated remaining life expectancy of at least 20 years, **C** are trees of lower quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. Category **U** relates to trees 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. The sub-category refers to the value type, where **1** is mainly arboricultural, **2** is mainly landscape and **3** is mainly cultural including conservation, historic and commemorative.

12 **Root Protection Radius** is a radial distance measured from the trunk centre, giving the radius of an equivalent circle. It is calculated using the formulae described in paragraph 4.6.1 of BS 5837: 2012 and is indicative of the minimum rooting area that should remain undisturbed in order for a tree to be successfully retained.

13 **RPA** area is the minimum area in m^2 which should remain undisturbed (up to a maximum area equal to a circular radius of 15m).

Appendix 3 - BS5837 Cascade Chart for Tree Categorisation

Category & definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Trees in such a condition that they cannot realistically be retained as living trees in the context of current land use for >10yrs	• 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; • Trees that are dead or showing signs of significant, immediate and irreversible decline; • Trees infected with significant pathogens affecting health or safety, or very low quality trees suppressing trees of better quality. ***NOTE**: these trees can have existing or potential conservation value making retention desirable*			**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 >40yrs	Particularly good examples of their species, esp. if rare or unusual. Those that are essential components of groups or formal or semi-formal arboricultural features (e.g. principal avenue trees)	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 >20yrs	Trees that might be included in category A but are downgraded because of impaired condition such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit category A designation.	Trees present in numbers, usually growing as groups or woodlands such that they attract a higher collective rating that they might as individuals. Trees occurring as collectives but situated so as to make little visual contribution to the area.	Trees with material conservation or other cultural value.	**MID BLUE**
Category C Trees of **low quality** with an estimated remaining life expectancy of >10 years, or young trees with a stem diameter <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 landscape benefits.	Trees with no material conservation or other cultural value.	**GREY**

Appendix 4 - Tree Survey & Constraints Plan
(see attached plan - drawing no. AS/RI/0423 TSCP)