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Arboricultural Appraisal **DTS23.4227.2.AA** Accompanied by Tree Appraisal Plan **DTS23.4227.2.TAP**

Site: [Land south of Locksey's Lane, EX12 3BX](#)
Report date: [5th January 2023](#)
Client: [Marrons](#)
Author: [Daniel Chew Dip Arb L4 \(ABC\)](#)



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1 Scope, methodology & limitations

- 1.1 The appraisal is an overview of tree quality on site and is designed to provide general guidance on how layout design and trees can work together. The tree survey method makes reference to BS5837:2012 (Trees in relation to design, demolition and construction – Recommendations).
- 1.2 Assessment of the potential influence of trees upon buildings or other structures resulting from interaction with shrinkable soils is excluded and soil type is not assessed. All dimensions including the crown spread and tree heights have been estimated.
- 1.3 Please bear in mind that the condition of trees can change following severe weather conditions, the effects of diseases or pests, and other abiotic factors so the accuracy of this report decreases as time passes. This report is valid for 12 months from the date of site inspection. No trees have been tagged.

2 Overview

- 3 Hedges were inspected on 5th January 2023 from ground level. Trees mainly comprise Hazel (*Corylus avellana*), Ash (*Fraxinus excelsior*), Sycamore (*Acer Pseudoplatanus*), and Hawthorn (*Crataegus monogyna*).
 - Age is Young. Physiological and structural condition is Good.
 - According to BS5837 categorisation, there are 0 'A' quality trees, 0 'B', 3 'C' and 0 'U'.
- 2.1 Root protection area (RPA)

The RPA for the trees are listed in the tree survey schedule on **page 7**, and illustrated on drawing 23.4227.2.TAP. Using stem diameter measurements, this is the default area where roots should be protected however the shape and size may be altered if ground conditions dictate.

3 General considerations for design

- 3.1 To accommodate the retained trees and reduce planning issues, I recommend considering the following:
- 3.2 **Construction process:** Provide sufficient space for the construction process. The position of contractor car parking, storage of materials, and provision of adequate working space should fall outside the RPA where possible.
- 3.3 **Dwellings and trees (refer to tree appraisal plan for guidance):**
 - Orientate plots so tree canopies are well away from dwellings - allow at least 5 metres between the canopy tip and dwelling for mature trees.

- If large veteran trees or large tree groups are retained, consider making them part of open space and try to avoid including them into gardens of dwellings
- 3.4 Services and drainage:** The default position is to avoid installing services within the RPA of trees. If this is not viable, it may be possible to use special trenching techniques but they can be more complicated and may need the use of an air spade.
- 3.5 Construction damage:** To retain the trees, trenching type excavations within the root protection area should be avoided, however it may be possible subject to further ground investigations using an air spade. It is sometimes possible to build light structures and narrow minor roads or drives subject to using suitable construction detail and methodology.
- 3.6 Construction access:** Access for construction traffic ideally should avoid the RPA and canopy of all trees; this avoids the need for extensive tree protection measures. If unavoidable, tree pruning may be needed and temporary ground protection measures will need to be installed.
- 3.7 Tree planting:** Trees benefit new development in many ways and new planting areas sometimes need protecting as existing trees.

4 Tree quality

Tree retention, removal and replacement:

- 4.1 In terms of planning, it is generally favourable to retain as many 'A' and 'B' quality trees as possible, however it is also important to avoid problems between new structures and existing trees, for example, new dwellings being too close to tree canopies.
- 4.2 When tree removals are needed, 'U' (red) trees are not safe to retain in a development and can be justifiably removed on arboricultural grounds alone.
- 4.3 It is fair to assume that 'C' (grey) quality trees can be removed to facilitate development, however some mitigation tree planting is generally recommended depending on the number of 'C' tree removed.
- 4.4 Wherever possible, 'B' (blue) quality trees should ideally be retained as they are often prominent or large trees. However, sometimes development will not be possible without their removal but this should be kept to a minimum and well-designed new tree planting carried out.
- 4.5 The most important trees are 'A' (green) quality and they should be retained unless there are no other viable options. Where 'A' trees are proposed for removal there needs to be good justification in terms of the layout design constraints and more substantial mitigation tree planting would form part of the new development.

5 General constraints

- 5.1 **Tree protection:** these trees may be protected by a tree preservation order, so it might be necessary to obtain consent from the Local Planning Authority (LPA) before any pruning works other than certain exceptions can be carried out.
- 5.2 **Crown spread:** the crown spread is a general indication of current branch length taken at the four cardinal points. Details of the lowest branch and its direction can be found within the Tree Survey Schedules. It is recommended to allow 5 metres between the canopy tip and dwelling for mature trees as a minimum. If large tree groups are retained, consider making them part of open space and try to avoid including them into gardens of dwellings.
- 5.3 **Root protection areas (RPAs):** the RPA represents the below-ground constraints posed by trees and are determined in line with recommendations set out in section 4.6 of BS 5837:2012. Design within this area should be avoided.
- 5.4 The RPA is initially plotted as a circle centred on the base of the stem. However, where the arboriculturist believes that pre-existing site conditions or other factors influence the RPA, modifications to the shape can be undertaken.
- 5.5 The default position is that structures and services are located outside of the RPAs of trees which will be retained.
- 5.6 **Shade area:** shading of buildings by trees can be or can become an issue where there are rooms that require natural light. Proposed buildings should be designed to take account of existing trees and the shade that they cast.
- 5.7 The area is plotted as a segment with a radius from the centre of the stem equal to the height of the tree and is drawn from due north-west to due east. This indicates the shadow pattern through the main part of the day.

6 Site specific comments

- 6.1 RPA's of hedges have been adjusted to take into account raised ground levels which will restrain root growth to only along the Devon bank.

7 Tree planting

- 7.1 Species selection, planting location, tree size, future size potential, and establishment and maintenance requirements (watering etc) should all be considered during the layout design process under the guidance of an arboricultural consultant.
- 7.2 Planting in soft open landscaped areas like amenity space or playing fields is reasonably simple to implement provided the above conditions are suitably addressed.
- 7.3 Planting where hard surfaces surround trees (for example in a car park or a narrow shrub bed abounded by a driveway) is more complex as design needs to consider how trees receive sufficient nutrients, air and water to survive and grow to maturity. This is a specialist form of tree planting and should be designed with arboricultural advice.

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Director and Consultant Arboriculturist



KEY for tree survey schedule

Tree No	Tag number and corresponding number on plan. # Indicates off site tree within influential distance.
Species	Common name and botanical name in italics.
Ht.	In metres measured using clinometer. Est = Estimated height.
Dia	Diameter measured in mm at c. 1.5m above ground level. **measurement not possible because of access or vegetation.
Branch spread	Estimate measured in metres on the four compass points.
HCC	The height to the lowest branch over the site in metres.
Age	Young (Y) Up to 20% of life expectancy. Semi Mature (SM) 20 to 30% of life expectancy. Early Mature (EM) 30 to 50% of life expectancy. Mature (M) 50 to 100% life expectancy. Fully Mature (FM) Beyond full life expectancy with signs of a decline in health. Veteran (V) An important tree beyond the expected age for that species which has unique cultural, historical, ecological and arboricultural features and or value.
Condition Physiological (P) and Structural (S) ** indicates vegetation prevents structural condition assessment.	P. Good A healthy, vibrant tree canopy with no signs of physiological decline or dysfunction. S. Good A structurally optimised tree with no signs of decay or features associated with mechanical weakness for that species. P. Fair A tree canopy showing symptoms indicating some physiological distress. Symptoms include more deadwood than is expected for the species, sub-optimal leaf, shoot or branch coverage, some leaf discolouration, signs of vascular dysfunction. Remedial action could be of benefit. S. Fair A tree with some signs of decay or features associated with mechanical weakness but not to the extent where the tree is unsafe or remedial action could not resolve the problem. P. Poor A tree canopy with extensive symptoms indicating physiological distress or decline. Symptoms include large areas of the canopy which are dead or dying, limited leaf coverage or shoot growth, remedial action would be of little or no benefit. A tree which is beyond physiological recovery. S. Poor The mechanical strength of the tree is compromised because either decay is extensive or natural features within the tree are significantly weakened. Tree removal, significant pruning or some form of remedial measures may be necessary to abate a hazard. Dead. A tree which is no longer living. It may still provide valuable or niche habitat for flora and fauna.
Action/ comments or recommendations	Recommendations for action in bold , including further investigations of suspected defects which may require more detailed assessment. If blank no comments are needed or work recommended.
ERC	Estimated remaining contribution in years in the current situation.
Cat.	Category grading using BS5837 (see below) A, B, C or U.
RPA	The root protection area in m ² , as area and radial distance as measured from the centre of the tree stem. BOLD Number = RPA reduced to account for site topography or reduced canopy size.

Cascade chart for tree quality assessment (extract from BS5837:2012 Trees in relation to design, demolition and construction Recommendations)

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
<p>Category U</p> <p>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</p>	<ul style="list-style-type: none"> 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 U category trees (i.e. 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 <p><i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>			DARK RED
	1 Mainly Arboricultural values	2 Mainly landscape values	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
<p>Category A</p> <p>Those of high quality and value: such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)</p>	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of 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
<p>Category B</p> <p>Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)</p>	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
<p>Category C</p> <p>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</p>	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