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**Tree Survey**  
and  
**Arboricultural Implications Assessment**  
for a  
**detached triple garage with storage**  
at  
**'Solent House', Playstreet Lane,**  
**Haylands, Ryde,**  
**Isle of Wight,**  
**PO33 3LJ.**

By  
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*Client: Mr. C. Ringer.*  
*AC-TS-SH.*  
*February 2024.*

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### DAMAGE TO TREES.

#### A. General:

1. Trees that have good health and stability are well adapted to their surroundings. Any development activity which affects the adaptation of trees to a site could be detrimental to their health, further growth and safety. Tree species differ in their ability to tolerate change but all tend to become less tolerant after they have reached maturity or suffered previous damage or stress.
2. The part of a tree most susceptible to damage is the root system, which, because it is not immediately visible, is frequently ignored. Damage to, or death of the root system affects the health, growth, life expectancy and safety of the entire tree. The effects of such damage may only become evident several years later. Damage may be the result of a number of insignificant but compounding factors that can accumulate over time.

#### B. Extent and Form of the Root System.

1. **The root system is typically concentrated within the uppermost 600mm of the soil** although it may be deeper within the dense mass of roots and soil close to the base of the tree. Within a short distance of the stem the roots are highly branched, so as to form a network of small diameter woody roots, which typically extend radially for a distance much greater than the height of the tree, except when impeded by unfavorable conditions. All parts of this system bear a mass of fine, non-woody absorptive roots.
2. The root system does not generally show the symmetry seen in the branch system. The development of all roots is influenced by the availability of water, nutrients, oxygen, and soil penetrability. As far as these conditions allow, the root system tends to develop sufficient volume and area to provide physical stability.
3. **The uptake of water and nutrients by the root system takes place via the fine roots, typically less than 0.5mm in diameter. Their survival and functioning – which are essential for the health of the tree as a whole – depend on the maintenance of favorable soil conditions.** The fine roots are short – lived, with the majority dying each winter and with fresh ones developing in response to the needs of the tree.
4. **All parts of the root system, but especially the fine roots, are vulnerable to damage.** Once roots are damaged, water and nutrient uptake is restricted until new ones have grown. Depending on the time this may take, if at all, and the volume of roots able to grow back due to changed soil conditions, such damage may result in decline or ultimately the death of the tree. Mature and over-mature trees respond slowly, if at all, to damage to their woody roots.
5. Damage to the stem and branches of a tree is not usually sufficient to kill the tree directly but may make it unsafe by affecting the weight distribution of the crown or by facilitating decay in the long term. Such damage may also be disfiguring.

# 1 INTRODUCTION

1.1. **Brief:** I am instructed by M.J. Hayles Architectural Services, on behalf of their client to inspect and assess the trees within and adjacent to an existing garage / store at Solent House, Playstreet Lane, Haylands, Ryde, Isle of Wight.

It is proposed to demolish the existing buildings and to replace with a new triple garage and storage on the similar footprint.

This will provide an assessment report in accordance with the specification in BS 5837:2012 *Trees in relation to design, demolition and construction - Recommendations* indicating the possible constraints which may be associated with the adjacent trees.

1.2. **Purpose of this report:** The primary purpose of this report is for the architect and council to review the tree information pertaining to the site so as to inform and support both the development design and the planning application process. The report can be used as the basis for issuing a planning consent or engaging in further discussions towards that end. Within this planning process, it will be available for inspection by people other than tree experts so the information is presented in a way to be understood and helpful to those without a detailed knowledge of the subject.

1.3. **Qualifications and experience:** I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my 40 +years arboricultural experience. I hold the Royal Forestry Society's certificate in Arboriculture and the LANTRA Professional Certificate for Tree Inspection.

1.4. **Documents and information provided:** I was provided with site plans: Site plan (existing & proposed), elevations & floor plans. These were supplied as a DWG electronic format by M.J. Hayles Architectural Services.

1.5. **Scope of this report:** This report is only concerned with the trees which may have an effect on or be affected by the proposed development. This will also include any trees in surrounding areas or properties which may be relevant to a proposed development.

1.6. **Ecological constraints:** The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000, provides statutory protection to birds, bats and other species that inhabit or nest in trees. Although the presence or relevance of such wildlife may be noted within this report these issues are beyond my area of expertise, so advice from an ecologist must be sought to check if any relevant constraints may apply to this site.

1.7. **Limitations of use and copyright:** All rights in this report are reserved. No part of it may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, or stored in any retrieval system of any nature without our written permission. Its contents and format are for the exclusive use of the addressee in dealing with this site. It may not be sold, lent, hired out or divulged to any third party not directly involved in this site without the written consent of M Jones Arborist Consultancy IW.  
This report is valid for one year from the date of inspection.

## **2 SITE VISIT and OBSERVATIONS**

2.1. **Site visit:** A site visit was carried out on the 18th of February 2024 for tree recording purposes and to assess the site and trees.

All observations were from ground level and did not involve any climbing or detailed investigations beyond what was visible from accessible points at ground level. All dimensions were estimated unless otherwise indicated. The weather at the time of inspecting was overcast, damp and calm.

2.2. **Brief site description:** The site is within the front garden of a detached residential property within a residential area to the north of the Island. The site is an existing garage / storage area for recent renovation works to the main house and the surrounding gardens.

The site area is internal to the grounds and is not viewed by other adjacent properties and is surrounded by mature trees and woodland garden areas. The site is level.

2.3. **Identification and location of the trees:** The trees in question are plotted as individuals on the site plans.

Dead trees, trees of below 75mm trunk diameter at 1.5m height or trees and large shrubs that have little or no landscape or amenity value either now or in the future have not been included within this survey.

2.4. **Restrictions:** A search of the I.O.W. Council GIS Mapping web site in February 2024 indicated that the grounds of Solent House are subject to an area Tree Preservation Order (TPO). TPO reference number: TPO/ 1982/41 A1.

## Explanatory Notes

- **Species:** I base the species identification on visual observations and list the common English name of what the tree appeared to be first, with the botanical name after in italics. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. If I am unsure of the precise species of tree, I indicate the botanical name followed by the abbreviation sp indicating only the genus is known, in order to avoid delay in the production of the report. The species listed for groups and hedges represent the main component and there may be other minor species not listed.
- **Measurements/estimates:** All height and branch spread measurements are estimates unless otherwise indicated. A diameter tape is used to calculate the stem diameter. In cases where the tree is inaccessible when the diameter is estimated. This will be indicated by a \* before the measurement. Any other measurements specific to a site or a particular tree will be indicated by \*\* and referred to as *additional observations*.
- **Height:** I estimate height to the nearest meter.
- **Stem diameter:** These figures relate to 1.5m above ground level and I record them in millimeters rounded up to the nearest five millimeters. Where a tree branches into two or more stems below 1.5m the measurement is taken immediately above the root flare. 'M' indicates trees or shrubs with multiple stems.
- **Branch spread:** I pace out to the measurement from the centre of the trunk to the tips of the live lateral branches to the four compass points.
- **Crown height:** This is the height of crown clearance from ground level to the lowest branches.
- **Age Class:** I estimate age from visual indicators and I assess the grades of maturity as follows. Young = less than one third life expectancy. Middle aged = one third to two thirds life expectancy. Mature = trees within their last third of normal life expectancy. Over-mature = trees towards the end of their last third of normal life expectancy that are in an obvious state of decline. Veteran = notably old or ancient tree of a particular species that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving the typical age range for the species concerned.
- **Health:** This refers to the physiological condition of the tree and is categorized as follows. Poor = obviously in poor health. Fair = some visible evidence of decline or lack of vigor. Good = Appears to be healthy and vigorous.
- **Structural condition:** Poor = obviously in a dangerous, or potentially dangerous condition. Fair = some visible defects, but no significant hazards. Good = sound, healthy condition.
- **Remaining contribution:** Estimated remaining contribution in years (e.g. less than 10, 10-20, 20-40, more than 40).
- **Grading:** Category U = trees of very limited arboricultural value due to condition. Category A = trees of high quality and value. Category B = Trees of moderate quality and value. Category C = trees of low quality and value. *Trees are further graded into subcategories 1-3 in compliance with the cascade chart for quality assessment in BS 5837:2012*

### 3 TREE SCHEDULE.

**Tree Survey:** The results of the survey are recorded in the table below. N.B. *This table should be read in conjunction with the explanatory notes*

Tree No.	Species	Height	Stem Dia.	Branch Spread	Crown Height	Age Class	Health	Structural Condition	Preliminary Recommendations	Remaining Contribution	Grade
T1	Lime <i>Tilia europeaus</i>	18M	*M 120mm Sucker growth to the base of the tree	N=4m S=11m E=6m W=6m	2.5m Towards the building	Mature	Good	Fair Suckering tree forming individual multi stems	Requires an estimated Root Protection Area (RPA) radius from the trees centre of 12m which will encompass the adjacent suckering stems.	>20yrs	B2
T2	Deodar Cedar <i>Cedrus deodara</i>	18M	880mm	N=8m S=6m E=8m W=45m	4.5M	Mature	Good	Fair Large but contained wound to the lower trunk	Requires a Root Protection Area (RPA) radius from the trees centre of 10.7m.	>20yrs	B2
G1	Mixed: Bay <i>Laurus nobilis</i> Sycamore <i>Acer pseudoplatanus</i> Common Laurel <i>Prunus lauroceracus</i> Ash <i>Fraxinus excelsior</i>	8-9M	150mm average	As shown on the site plans. Joined canopies	To base as a hedge	Middle / Young	Good	Good - Fair Primarily an overgrown screening hedgerow with small self-seeded saplings	Requires an average Root Protection Area (RPA) radius of 1.8m but will be contained by the adjacent road, driveway and existing building base / foundation slab. Will benefit by being cut back and reduced to a more formal hedgerow as many of the stems are 'leggy' and starting to become unstable.	>10yrs If maintained as a screening hedge group.	C2 As a group area

## 4. ARBORICULTURAL IMPLICATIONS ASSESSMENT (AIA)

A study was carried out to consider, identify, evaluate and possibly mitigate the extent of direct and indirect impact on or from the trees that may occur as a result of any proposed new development being constructed on the site.

### 4.1 Tree Constraints.

- **Tree Categorizing:** The trees have been categorized using the BS 5837:2012 Cascade Chart for tree quality and assessment and these have been given in the Tree Schedule and are shown on the plans included in the *appendix* and represented as a shape and a color.
  - Light Green = Category A trees: trees of high quality and value.
  - ◆ Mid Blue = Category B trees: trees of moderate quality and value.
  - Grey = Category C trees: trees of low quality and value.
  - U Red = Category U trees: trees unsuitable for retention.
- Subcategory Criteria:
  1. Mainly arboricultural values.
  2. Mainly landscape values.
  3. Mainly cultural values including conservation.
- **Root protection areas:** The root protection areas (RPA) for all the significant trees in the vicinity of the development have been plotted in accordance with the formula given in BS 5837:2012 and are shown along with the circle radius for the area on the plan included in the *appendix*. The BS 5837 recognizes that an RPA is influenced by other on site factors and states in **5.2.4** that it *'may change shape but not reduce its area whilst still providing adequate protection for the root system'*. This can be due to, *'b) The morphology and disposition of the roots, when known to be influenced by past or existing site conditions (e.g. the presence of roads, structures and underground services)*.
- **Tree shadow/ shade:**
  1. The development is for a garage & store, not as dwelling, therefore shade and shadow has not been considered as a constraint towards this development and has not been represented further within this report.
- **Crown Spreads:**
  1. The indicative crown spreads of the tree surveyed are shown on the *Tree Constraints Plans* included in the *appendix*. Any proposed development design must consider the proximity, dominance and possible nuisance to the building and its use from the crowns and branching system. The future crown spreads of the tree surveyed has also been considered in relation to the proposed development.



## 4.2 Tree Constraint Considerations: *General*;

On measuring and plotting the constraints of these trees, any development design and construction will need to consider any tree constraints. Any implications of this, from or to the trees must be considered and addressed. Possible solutions for this within BS 5873 may be:

A) Removal of the tree. This may be acceptable for category `C` trees as BS 5837 states that “C category trees will not usually be retained where they would impose a significant constraint on development,” however this may not be reasonable for higher category trees or `C` grade trees or groups which may be retained for other reasons e.g. screening.

B) The re- positioning of the proposed development to outside the constraint.

C) To use construction methods which minimize the impact to the rooting system, this may be in the form of footings more radial to the tree roots, or sheathed micro-pile or screw piles with footings- beams, slabs, suspended floors laid at or above ground level and cantilevered as necessary to avoid major tree roots.

These conditions should also applied to kerb edges, driveways and hard landscaping, by using a three dimensional cellular confinement system, e.g. `Celweb` to minimize compaction and maintain porosity to both water and gasses. Any impervious surface or covering (construction) to be installed over a RPA must cover no more than 20% of any tree total RPA area and in a tangential strip no wider than 3 meters. If this is exceeded then a system of irrigation to the covered area is to be provided, to compensate for the loss of `open` root feeding area.

Any trenching for underground services will need to comply with National Joint Utilities Group (NJUG). *Guidelines for the planning, installation and maintenance of utility services in proximity to trees.*

Soil level changes, both lowering, or raising within a RPA should be kept to a minimum with any infill generally kept light and un-compacted.

D) To include within the development design elements which will minimize the affects of a current or future tree constraint, which may put future pressure on the tree to either be removed or pruned beyond what would be considered reasonable to maintain its amenity value and health, for example, to position windows or areas of high occupancy away from heavy shade or long periods of shadow.

**NOTE i).** With all the given current information and considering the longer term prospects of a tree in conjunction with the development the Planning Authorities may agree it suitable to remove a tree and replant with a species more suited or in a position more acceptable to the development.

#### 4.3 Tree Considerations: *Items*;

The Town & Country Planning Act 1990 requires trees on or near development sites to be part

of the material considerations within the planning process. The Local Planning Authority (LPA) is also **obliged**, to take steps, through the use of TPO's and Planning Conditions, and where it is considered appropriate, to retain and protect trees on development sites and to ensure the planting of new trees if considered necessary.

- **Tree Removals:**

1. The development will require the removal of some of the tree group indicated as G1.
2. The trees and shrubs to be removed are of a low C grade and are primarily overgrown and neglected hedge screening shrubs with self seeded saplings.
3. These removals are internal to the site and not viewed from the wider public area.
4. The removals can be considered as normal as reasonable maintenance works to re-establish the hedgerow and the future maintenance of this area of the garden.
5. The tree / shrub removals will not be a constraint towards this development.

- **Crown Spreads:**

1. The current crown spread of the adjacent tree T1 will encroach over the closest elevation of the proposed development footprint.
2. Due to the low descending branch ends of this lime tree, it will require the pruning of these branches to raise the crown height to approximately 5m in height to give a clearance from the branch ends to the building. This minor pruning is already being carried out to this tree due to the existing building, (which is closer than the new proposed building so it is reasonable to presume that this is already greater than will be envisaged for the new building).
3. Any future growth from the tree that may require future pruning should be considered as normal and reasonable garden maintenance, (as is already being carried out), commonplace for trees adjacent to buildings and if done to the BS 3998:2010. *Recommendations for tree work* (as required for preserved trees) will not be detrimental to either the trees or the local amenity landscape.
4. The steep pitch of the proposed roof will allow tree litter and debris to easily fall from the roof and a simple gutter guard to the rear gutter will elevate leaf build up to the drainage system.
5. The tree crowns will not be considered as a constraint towards this development.

- **Root Protection Areas:**

1. The new building is proposed to be constructed on a reinforced concrete slab with a minimal depth edge toe beam.
2. The proposed development footprint is smaller than the existing building, which itself is on a concrete slab base particularly over where the roots of T1 are presumed to be.

Cont:

3. The proposed construction system within the presumed RPA will give a minimal impact to the root system of T1 and will not be detrimental to either the future health or stability of this tree as the impact will be no greater than which already exists, particularly as a species lime are tolerant of ground disruption.
4. The removal of the existing concrete slab that is closer to T1 and returning this back to soft landscaping will increase the potential rooting and feeding area for this tree, therefore benefiting this tree in the future.

## **5. CONCLUSIONS:**

1. After considering the constraints of these trees and the area available for the development design, I consider it is feasible to construct the development within this area whilst suitably providing for the wellbeing of the retained trees
2. If adequate precautions to protect and manage the tree are further detailed and specified within an Arboricultural Method Statement and implemented in conjunction with the construction of the development, the development will have no adverse impact to the local landscape amenity in the future.

A handwritten signature in black ink, appearing to read 'Mick Jones', is centered on the page. The signature is written in a cursive style with a large loop at the end.

Mick Jones. Cert Arb. RFS.

## **Appendices**

### **PROPOSED SITE PLAN**

