



27 Portsdown Hill Road

Havant

Hampshire PO9 3JU

**Arboricultural Impact Study
and
Method statement**

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client: **Mr and Mrs Lamonby**

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Background

- 1 Plans are in preparation for application to Havant Borough Council for consent for the demolition of an existing garage and its replacement with an alternative building at 27 Portsdown Hill Road, Havant (the site).
- 2 Three trees stand on the site which may be affected by these proposals. I have been instructed to undertake a survey of these trees, to comment upon the potential for impact of proposed development on those trees and advise on how the project could be completed whilst ensuring the wellbeing of those trees shown to be retained.

Scope

- 3 This report consists of a brief description of the site, briefly describes the trees, comments upon the proposed development and any implications this may have for any trees to be retained. It details tree surgery works required to enable the project to proceed and goes on to make recommendations for the protection of trees to be retained during the construction phases.
- 4 The trees were surveyed by someone experienced and qualified in arboriculture. This work was carried out from ground level only, with the aid of binoculars where appropriate, without the use of invasive diagnostic equipment.
- 5 This report has been prepared to accompany an application for planning consent; it is not, nor should it be taken to be, a full or thorough assessment of the health or safety of trees on or adjacent to the site.

The Site

- 6 The site comprises a residential dwelling set on the south facing side of Portsdown Hill, overlooking Langstone Harbour. Land levels fall from high ground at the north to lower ground to south along the length of site.
- 7 Access is gained through iron gates down a short drive from Portsdown Hill Road which runs along the site's northern boundary. The Eastern boundary runs alongside Glebe Park Avenue. To the south and west the site abuts other established residential properties.
- 8 The house stands towards the centre of the site with a detached double garage offset to its north east. Land to the north of the house is given over to a generous parking court set around by mature, well managed shrubs growing from raised beds. The parking court is currently hard surfaced; its appearance being consistent to well consolidated MOT Type 1 material.
- 9 Two trees stand within the raised bed towards the north eastern corner of the property and tight to the boundary with Portsdown Hill Road. A third tree stands tight to Glebe Park Avenue adjacent the south east corner of the current garage. The garden area between this tree and the house, which is currently being re-landscaped, is occupied by disturbed open ground.

The Trees

- 9 This section should be read in conjunction with the Tree Survey schedule Table 1 produced at page 9 below. A total of three individual trees have been surveyed standing on or immediately adjacent the site, in proximity to the proposed work. Survey work was undertaken from ground level only by someone experienced and qualified in arboriculture, with full details recorded in Table 1 below.



- 9 Tree T1 to T2 are mature Sycamore trees, both have been managed as pollards and were exhibiting some three seasons' growth at the time of inspection. They stand tight to the road frontage close-board fence, growing from within a narrow raised bed between the formal footpath alongside Portsdown Hill Road to their north and a light retaining wall above the parking court to their south. Both trees are well placed to serve as a screen between the house and road traffic and are prominent in views east or west along the road. Their restricted size, resultant from the pollard management, reduces their overall amenity value.
- 10 At the time of inspection both trees appear to be healthy and of normal vigour, displaying good extension growth over the last couple of years; they appear free from significant pests or diseases. External observation revealed a number of cavities forming in association with old pruning wounds, both on their trunks and in the pollard heads. Provided the trees continue to be managed as at present with re-cutting every three or so years these cavities should not be of structural concern for many years.
- 11 Tree T3 is an Ash and a very similar picture exists with respect to this third tree. It too stands tight to the roadside, so close in this case that the trunk shows through the dwarf boundary wall and closeboard fence, both of which have been built up to the tree's trunk from the north and the south. This Ash is also being managed as a pollard on the same rotation as the two Sycamore trees.
- 12 The Ash arises as three trunks 0.5m above ground level. Fruit bodies of the decay organism *Daldinia concentrica* Cramp Balls, or, as it's also known, the King Alfred's Cake fungi, were observed towards the top of the eastern most trunk, on its west face.

Legal Status

- 13 It is not known at this time whether any trees here are subject to a Tree Preservation Order or whether the site lies within a Conservation Area. Approach should be made to the Local Planning Authority to positively determine the status of trees on this site before any onsite work (excavation, site clearance, tree felling or pruning) is commissioned.

The Proposal

The proposals comprise:

- Demolition of the existing garage
- Construction of a hobby room in place of the existing garage
- Construction of a twin bay car port to the north of the hobby room

Implications

- 14 Please read this section in conjunction with the root protection areas table, Table 2 and arboricultural impact assessment table, Table 3 produced at pages 9 and 10 below and the Tree Protection Plans that accompany this document.
- 15 The nationally recognised guidance for use when developing near trees is British Standard 5837:2012, Trees in Relation to Design, Demolition and Construction - Recommendations, which, amongst other things, gives recommendations with relation to the juxtapositioning of development relative to existing trees.
- 16 Section 4.6 of British Standard 5837:2012 prescribes a methodology for the calculation of a Root Protection Area (RPA). The RPA represents the minimum *area* that should be retained



undisturbed around a tree for the avoidance of an unacceptable degree of root disturbance. The required RPA of any tree is calculated, and the radius of a circle of equivalent area may then be used as a tool in plotting constraints, for layout planning purposes or determining the location of protective fencing. The *actual shape* of this area may be adjusted to take account of local topography or any existing site features that may serve as restrictions to “normal” root development. Depending upon prevailing ground conditions it may be acceptable for the shape of a tree’s RPA to be other than circular, provided the actual *area* can still be achieved.

- 17 Generally in the order of 80% of the roots of any tree will occur within the upper 600mm of the soil. Roots will spread out for a very considerable distance from a tree and may be encountered at a distance equating to twice tree height away from its trunk. Working anywhere in the near vicinity to trees is likely to cause some root damage. Where proposed structures lie within the recommended root protection areas with respect to any of the trees, the potential for significant root damage exists. The required root protection areas with respect to all the trees described above have been indicated on the accompanying Tree Survey Plan.

General Observations

- 18 The proposed development has been carefully designed to enable the retention of all three trees present on the road side perimeter of the site. It is acknowledged there are distinct advantages in design terms and for the amenity of the property as well as the street scene in the retention of these trees.
- 19 No trees need to be removed in order to implement these proposals, however works come close to all three.
- 20 All three trees have been pollarded historically and are being maintained within strict size limits by a program of regular re-pollarding on what is understood to be a three year cycle. On this basis they are due for re-cutting this year.
- 21 Managing the trees so that they only ever support a small crown, very small relative to their trunk diameter, renders the usual root protection area calculations (as presented by British Standard 5837:2012) somewhat redundant. Normal root growth, as might be influenced by local ground conditions surrounding hardstanding and so forth, can be anticipated to have occurred up until the onset of the first pollarding event. After that time it is unlikely that the trees will have been able to photosynthesise sufficiently to maintain their full root systems. More distant parts of the trees’ root systems will have naturally declined.
- 22 Works that would have been unacceptable (due to predictable impact resulting from root loss) in proximity to the trees while they were of full size will now, as a result of the severe pollarding regime, be tolerated without visible impact to their overall health or longevity. To put numbers to this trees with trunks of diameter similar to tree T1 can ordinarily be expected to have canopies in the order of 8 -10m diameter. Such a tree would require a theoretical root protection area of some 4.7m radius. A tree with a 4m crown diameter (as these now have) would ordinarily be expected to have a trunk diameter in the order of 100mm and a theoretical root protection area of 1.2 radius. Or to express this another way; a smaller plant can survive in a smaller plant pot.

Demolition of the garage

- 23 The existing garage lies within the theoretical root protection area with respect to tree T3. With appropriate care the garage can be demolished, working from the existing drive side, with no impact to T3.



New Hobby Room

- 24 The footprint of the new hobby room has been drawn to ensure that its footprint extends no closer to T3 than the southern elevation of the existing garage. However this building will extend to the east of the existing garage. Any excavation for new footings outside the line of those of the existing garage is likely to encounter tree roots. The south eastern corner of the new hobby room has been designed to cantilever from the existing foundation – thereby minimising impact; this situation is acceptable. The extent of any impact on tree health or longevity of this (mindful of paragraphs 20-22 above) is unlikely to be of any significance. Ground to the south of the garage would need to be protected (see accompanying plans) to prevent avoidable harm during demolition work.
- 25 Retaining the ground protection while the support posts for the new deck are installed will further minimise any disturbance to underlying tree roots. Ground protection may then be removed prior to completion of the decking and new steps.

Proposed Car Port

- 26 The proposed car port lies within the theoretical root protection areas of Sycamores T1 and T2. The extent of rooting in this area will have been influenced by construction of the existing light retaining wall and hard surfaced parking area. Grading of the land, laying and compacting the hardcore / Type 1, consolidation and ongoing compaction of that through use will have led to past root loss / death. This will reduce the scope for any significant impact resultant from any damage caused by excavations for the foundations for the end wall; in combination with the reduced demands due to the trees' small (pollarded) crowns, this will severely limit the potential for harm to the trees' wellbeing or longevity in consequence.

Services

- 27 Service provision had not been finalised at the time of reporting. However, there remains ample space on site to ensure that all cable and pipe runs remain clear of tree protection zones. All service and pipe routes should be worked up and agreed with the contractors to ensure they remain outside and clear of the lines of tree protection fencing, prior to commencement of works onsite.

Summary of Impact

- 28 This development proposal does not remain clear of the three trees. However, as a consequence of careful design, existing site features and the past and ongoing management of the trees, this proposal could be achieved without significant harm to those trees.
- 29 Tree protection barriers and ground protection will need to be installed to prevent accidental damage to the trees during the construction process.

Tree protection during construction

- 30 Should the project proceed, the trees onsite must be protected to guard against accidental damage during demolition, ground works and building operations. Protection should be provided by means of a robust fence set up after the completion of tree surgery operations (re-pollarding work), but prior to any other site work.
- 31 Chapter 6.2 of British Standard 5837:2012 sets out a specification for robust tree protection barriers - using scaffold poles to form a post and rail frame work, braced at 5m intervals and faced with Heras or similar anti-climb panels. The intention here is to create a sufficiently robust structure to ensure that it protects the trees, their trunks, branches, roots and ground in which their roots



grow, from all construction activity. Given the low level of intensity of works necessary to complete this project horizontal rails are unlikely to be necessary in this instance.

- 32 The recommended lines, along which such a fence should be erected, are indicated in red on the accompanying Tree Protection Plan. A pictorial guide for the design of such fencing is also given on that plan.

Tree surgery

- 33 Tree surgery recommendations are contained within the Tree Surgery Schedule at Table 4 produced on page 10 below. The tree surgery should be undertaken as the first onsite operation, to remove hazard from the construction site, facilitate the erection of the tree protection fencing and give working space. It is important that the tree surgery works are undertaken by a competent tree surgeon working to the provisions of British Standard 3998:2010 and current industry best practice.

Root precautions

- 34 Roots will extend beyond tree root protection areas. During excavation, roots may be encountered, where this occurs every effort should be made to avoid severance or sloughing off root bark. Any roots over 25mm in diameter or bundles of several smaller roots must be protected to avoid drying or extremes of temperature. This is best achieved by immediately covering with damp Hessian or similar material.
- 35 Should roots be severed, they should not be left with torn or split ends but be trimmed back to a fresh clean finish using a sharp tool (e.g. root pruning saw, secateurs or loppers), then protected as above.
- 36 Infill around exposed or severed roots should comprise clean, moist, sharp sand (not builder's sand or concrete!) and good quality top soil. This fill should be gently firmed – not compacted hard. Backfilling must not be unreasonably delayed.

Conclusion

- 37 Plans are in preparation for the development at 27 Portsdown Hill Road to remove the existing garage and replace it with a hobby room with attached car port.
- 38 Three individual trees have been identified in close proximity to the proposed works.
- 39 No trees are to be felled to facilitate this proposal.
- 40 Provided the straight forward expedient of erecting and retaining the recommended ground protection and tree protection barriers prior to other site activities, then this development may proceed without adverse impact on any trees shown to be retained.



Method Statement

To ensure adequate protection for the trees, the following order of activities should be followed:

- a. Undertake tree surgery works (subject to such land ownership and Local Planning Authority consents as may be appropriate. Note that should planning consent be granted, this will override the need to obtain separate tree works consent for works detailed within the planning submission).
- b. Erection of tree protective barriers and laying of ground protection in accordance with attached plans and specifications and as may have been amended and agreed in writing with the Local Planning Authority.
- c. Inform Local Planning Authority Tree Officer that tree protection measures have been erected. A site meeting to involve Local Planning Authority Tree Officer and site manager is advisable in order that any operational concerns can be resolved prior to start of works.
- d. All site operatives, visitors and sub-contractors are to be briefed on the presence of tree protective fencing and the need to ensure that all operations remain wholly outside the protected areas as part of site induction procedures.
- e. Agree routes to all services, drains or other subterranean works; to remain outside tree protection barriers.
- f. Main site operations – demolition of existing garage
- g. Main site operations – construction of new garage
- h. Placement of decking support posts
- i. Removal of ground protection
- j. Construction of decking
- k. During full duration of building works tree protective barriers to be retained and maintained as erected with NO works whatsoever to take place on the tree side of the barriers.
- l. Tree roots will extend beyond the protected areas. Where these are exposed by excavation they are to be pruned properly using secateurs or sharp saw. Exposed roots shall be covered by moist Hessian until they are reburied using a good quality top soil or top soil and sharp sand (not builder's sand) mix.
- m. During building works caution must be exercised to ensure that no signs, notices, cables or other paraphernalia are affixed to any part of any retained tree.
- n. Completion of building, onset of landscape works - Inform Local Planning Authority Tree Officer main works complete and give date for fence removal.
- o. Removal of tree protective fencing.
- p. Final landscaping.



Tree Survey: explanation

This survey has been undertaken from ground level, by someone experienced and qualified in arboriculture in accordance with British Standard 5837:2012. This is not, nor should it be taken to be, a full or thorough inspection for tree health or safety purposes.

- Tree Nos:** Number: Unique number, identifying each tree on the accompanying plan.
- Species:** Tree species giving vernacular and full botanic name. *Spp.* After generic name indicates species unconfirmed
- Height:** Tree top height expressed in metres
- Diameter:** Tree trunk diameter measured at 1.5m above ground level (on sloping ground above highest ground level) or immediately above root flare for multi stemmed trees. Expressed in millimetres. **est** – dimension estimated; **av** average; **max** maximum dimension used in groups. Multiple numbers indicates stem divides into multiple trunks below 1.5m

Branch Spread: Tree canopy extent taken from centre of tree trunk to edge of general canopy line along the four principle points of the compass. Note this distance is to the general canopy line in certain cases an exceptional or etiolated branch may extend beyond stated figure.

Canopy height: Height above ground in metres of the first branch along the four principle compass points and of general canopy line along the four principle compass points (or average height of branches or canopy where fewer numbers given)

- Age:**
- | | | |
|------------|----------------------|---|
| Y: | Young - | within first third of normal life expectancy. |
| MA: | Middle-aged - | within second third of normal life expectancy. |
| M: | Mature - | within final third of normal life expectancy. |
| OM: | Overmature – | senescent trees nearing end of their anticipated life expectancy |
| V: | Veteran - | exhibiting features of biological, cultural or aesthetic value characteristic of individuals surviving beyond typical age range |

Also contains estimated remaining contribution in years:

<10 = less than 10 years; 10-20 years; 20-40 years; 40+ =more than 40 years

Physiological G – good growth and condition found as expected for the species in relation to age / location

- Condition**
- F** – fair growth and condition neither good nor poor
 - P** – poor growth and condition notably below what could ordinarily be expected
 - D** – dead, showing no signs or symptoms of life

Structural: General remarks concerning location, amenity, health, safety, structural condition, significant pest or disease as well as potential for wildlife habitat etc.

Preliminary management recommendations: recommendations regardless of any development proposals.

Tree Category: Tree categorisation as defined by Table 1 of British Standard 5837:2005

U – trees for removal; those in such a condition that are dead, dying, dangerous severely suppressed or where any existing value would be lost within 10 years; dark red on plan.

- | | |
|--|---|
| <p>A – trees of high quality and value
> 40 years contribution
Marked light green on plan</p> | <p>1 particularly good example; essential component of group eg in avenues
2 screening value; particular visual importance
3 significant conservation, historical, commemorative or other value includes veteran or wood pasture trees</p> |
| <p>B – of moderate quality and value
> 20 years contribution
Marked mid blue on plan</p> | <p>1 of impaired condition in relation to trees in category above
2 one of many, internal to site, of limited visual impact to locality
3 clear conservation or cultural benefits</p> |
| <p>C – trees of low quality and value
>10 years contribution
Marked grey on plan
Includes young trees below 150mm diameter (to which consideration for transplanting should be given).</p> | <p>1 trees not qualifying for higher categories
2 within groups with low landscape value; having limited screening value
3 very limited conservation or other cultural benefits</p> |



Table 1

Tree survey schedule

Tree Nos.	Species	Top height m	Trunk diameter mm	Branch spread mm	Canopy height	Age class & life expectancy	Physical condition	Structural condition	Preliminary management recommendation	Category
1	Sycamore <i>Acer pseudoplatanus</i> L.	6	390	N2 E2 S2 W2	2	M 20-40	F	Tight to road frontage fence, with fence built around trunk, old pruning wound at 1.5m against fence, twin stemmed from 2m, old pruning wound to south, cut as a pollard at 4m with old pruning wounds now showing decay, 2m of healthy regrowth arising above old pollard points	Continue pollard management	C1 &2
2	Sycamore <i>Acer pseudoplatanus</i> L.	6	320	N2 E2 S2 W1	1.5	M 20-40	F	Tight to road frontage fence, basal scaring to trunk on fence side, old pruning wound at 1.5m with decay present, cut as a pollard at 3.5m with old pruning wounds showing some decay, 2.5m of healthy regrowth arising above old pollard points	Continue pollard management	C1 &2
3	Ash <i>Fraxinus excelsior</i> L.	8	310 370 250	N2.5 E3 S2 W1.5	2	M 10-20	P	Arises as three stems above 0.5m, tight to road frontage, with dwarf wall and fence built up to either side of trunk, eastern stem projects through fence, light epicormic growth on trunks, decay cavity in old cuts on pollard heads, Alfred's Cakes near top of west side of east stem, cut as a pollard at 5.5m with old pruning wounds now showing decay, 2.2m of healthy regrowth arising above old pollard points, bird box on northern stem, minor disturbance to roots to north by old ground works	Continue pollard management	C1

Table 2 Root Protection Areas

Root protection areas (RPA) and dimensions, including allowances for existing obstructions within initial RPA; in accordance with calculations set out at section 4.6 of British Standard 5837:2012 and annex D thereof. Please note that the calculated root protection areas shown in this table take no account of past pruning / pollarding of the trees

Tree Number	Species	Stem Diameter mm	Root Protection Area m ²	RPA radii m	RPA radii adjusted to account for presence of footpath/roads m
1	Sycamore	390	69	4.7	5.6
2	Sycamore	320	46	3.8	4.6
3	Ash	310 370 250	137	6.6	8



Table 3 Arboricultural Impact Assessment,

This table relies on guidance given at section 4.6 and elsewhere within British Standard 5837:2012, to determine minimum root protection Areas (RPA) and the radial distance from the centre of the tree's trunk required assuming a circular RPA. Note that the *actual* distances and shape of the RPA may need to be adjusted to compensate for existing site features.

Nos	Species	Cat	Required RPA m ²	RPA radii m	Works within required RPA? distance to feature m	Summary of impact of proposal upon tree
1	Sycamore	C	69	4.7	2.2m to car port	Works within theoretical root protection areas for all three trees. Disturbance and some damage to roots of all three trees predictable. However significance of that damage / scope for impact on overall tree health and longevity will be severely limited by current and ongoing pollard management regime; see text
2	Sycamore	C	46	3.8	2m to car port	
3	Ash	C	137	6.6	3.01m to garage	

Table 4 Tree surgery schedule

This schedule of works has been prepared to take account of those works required to remove the dead dying or dangerous trees or tree parts and put the trees into fair condition. It also includes works required to facilitate the proposed development.

Nos	Species	Hi m	Dia mm	Works
1	Sycamore	6	390	Continue pollard management - re-cut this year and continue on three year cycle
2	Sycamore	6	320	Continue pollard management - re-cut this year and continue on three year cycle
3	Ash	8	310 370 250	Continue pollard management - re-cut this year and continue on three year cycle

NB: Approach should be made to the Local Planning Authority to determine conclusively whether a Tree Preservation Order exists or whether the site lies within a Conservation Area prior to any tree works being instructed. If such an order exists their **written consent must be obtained** prior to the felling or pruning of any live trees; or in the case of dead wood, dead, dying or dangerous trees, five days written notice must be given.



About the author

The son of a forester, Dermot Cox was raised in the Forest of Dean. On leaving school he worked as a forester for several years, firstly in Scotland and later in the Cotswolds before attending Merrist Wood College where he attained a distinction in the National Diploma in Arboriculture. After five years working as tree surgeon in England and Southern Ireland, he became a Local Government Tree Officer working for the same authority for nine years. During this time he gained the Royal Forestry Society's Professional Diploma in Arboriculture and later became a Fellow of the Arboricultural Association. After being head hunted, he spent three years working in private practice before returning to Local Government. Mr Cox currently works as Senior Arboricultural Officer for Test Valley Borough Council as well as practising as an independent Arboricultural Consultant.



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