# Simon Pryce Arboriculture

## Report

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|---|---|
| **Client:** | **Mr & Mrs Eringer** |
| **Site:** | **91 Redington Road, London, NW3** |
| **Subject:** | **Trees and proposed new summer house in the rear garden.** |
| **Inspection date:** | **4 January 2017** |
| **Report date:** | **15 January 2017** |
| **Reference:** | **16/099** |
| **Author:** | **Simon Pryce, BSc, FArborA, RCArborA, CBiol, MICFor** |

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## 1 Introduction

1.1 This report has been prepared on the instructions of Derek Lofty & Associates, who are acting for Mr & Mrs Eringer in connection with the proposed construction of a summer house in the rear garden.

1.2 I have been asked to inspect trees growing near the site and to prepare a report on them, as set out in British Standard 5837: 2012, Trees in relation to design, demolition and construction.

### Survey method

1.3 The site was visited and the trees inspected on the morning of 4 January 2017. The inspections were visual and made from ground level. The trees are just beyond the boundary in adjacent gardens to the left and rear, but could be seen from within the garden of no.91 sufficiently well for the purposes of this report.

1.4 The trees were measured, their maturity, health and structural condition assessed and each was assigned to one of the four retention categories [A,B,C,U] specified by BS5837. The individual descriptions and other relevant information are contained in the attached schedule and they are shown on the attached plans, based on originals prepared by Derek Lofty Associates.

## 2 Background

### The site

2.1 The site is in the rear garden of 91 Redington Road, which is bounded to the north and south (right and left seen from the house) by the gardens of no.93 and 89 respectively and to the rear by the back garden of 23 West Heath Road. The garden is about 22m wide by 45m long with a moderate slope up towards the rear. The area concerned is in the far left hand corner which is laid to lawn with trimmed Leyland cypress hedges round the edges just inside the wooden fences that form the boundary. There is an existing garden room in the rear right hand corner and a sunken timber decked area in the centre near the far end.

2.2 The garden is in the Redington Frognal Conservation Area.

### Proposal

2.3 This is shown on the drawings produced by Derek Lofty & Associates and is to build a log cabin style summer house about 5m wide by 10m long in the far left hand corner aligned with the long side parallel to the side boundary. This is a lightweight single storey structure with log walls and a pitched cedar shingle roof.

2.4 The building is to rest on a concrete raft foundation involving excavation to approximately 450mm.

## 3 Trees

3.1 There are three trees near the area concerned, two mature sycamores in the rear garden of no.89 and a beech in the garden of 23 West Heath Road. They are near the boundary and it was possible to obtain sufficiently good views of them over the fence. Tree 1, a sycamore, has three trunks from ground level and might have grown from the stump of a felled tree but none of them have any signs of recent major work and they are in reasonable health and structural condition. They are described in more detail in the schedule and shown on the site plan.

## 4 General comments

4.1 The two main functions of tree roots are 1) physical support and 2) the supply of water and nutrients from the soil. Roots will grow wherever conditions are favourable i.e. there is a suitable supply of air and water, so most tend to be in about the upper 600mm of the soil and even shallow excavation or minor level changes can be harmful. Construction near trees can also be harmful in less direct ways, such as soil compaction caused by heavy machinery and spillage of toxic materials such as diesel oil and cement.

### Root protection areas

4.2 British Standard 5837: 2012, Tree in relation to design, demolition and construction – Recommendations, specifies measures to avoid or minimise construction damage to trees. One of these is that root protection areas (RPAs) are established round retained trees and that no ground work takes place within them unless suitable alternative measures are taken, such as installing protection on soft ground. RPAs are normally fenced to exclude construction access. Ground protection can be with heavy duty plywood laid over a layer of compressible material, such as woodchips, spread over a geotextile membrane laid on the ground.

4.3 The starting point is that a single trunked tree's RPA has an area equivalent to a circle with a radius 12 times the trunk diameter measured at 1.5m above ground. With multiple trunked trees the RPA is based on a notional single trunk that would have the same cross sectional area. Where existing site conditions or other factors indicate that root spread is asymmetrical, the RPA shape can be adjusted to a polygon of the same area, provided this reflects a sound assessment of likely root distribution. Most of the roots that provide structural support are closer to the tree than approximately 3x the trunk diameter so, if the RPA shape is adjusted, that is a sensible minimum distance for any part of it from the trees.

## 5 Discussion

### Direct implications

5.1 The boundary fences will not impede root growth so the trees have uniform rooting conditions, possibly impeded slightly by the sunken deck, so the circular RPAs shown on the site plan will be a reasonably accurate reflection of actual root spread. The new building is completely within the RPA of tree 1 and extends into those of the other two to some degree. The table below shows the areas concerned relative to the RPA areas and the distance between the building and the trunk diameters. With tree 1 the diameter of 900mm is the equivalent single trunk with the same cross section as the existing three:

| Tree no. | RPA area m² | Incursion by building m² | % of RPA | | Trunk dia. T | Distance m D | D/T |
|---|---|---|---|---|---|---|---|
| 1 | 368 | 50 | 13.5% | | 900mm | 3.1m | 3.4 |
| 2 | 137 | 7.1 | 5.1% | | 550mm | 3.8m | 6.9 |
| 3 | 254 | 27 | 10.6% | | 750mm | 2.6m | 3.5 |

5.2 The areas affected by the building are relatively small percentages of the RPAs and, while the trees are not as resilient as younger specimens, these are within what healthy individuals like these will tolerate. The shape of the building in relation to the tree locations mean that it is fairly close to the trunks, but in all cases it is farther away than three times the diameter (D/T greater than 3), i.e. beyond where most of the structural roots will be. This indicates that the trees are not unduly vulnerable to direct damage from the construction of the foundations, particularly as they have unrestricted space for root growth in every other direction.

5.3 Some roots will inevitably be under the building and before any work starts it would be advisable to hand dig an exploratory trench round the building perimeter to check whether any large ones are present. Depending on their sizes and locations they can either be cut cleanly or worked round.

**Indirect implications**

5.4 This is a small scale project with no access for heavy plant or machinery and the trees are all in adjacent gardens well away from the only access route, so they are not unduly vulnerable to incidental damage. Work space will be needed all around the building, so some protective measures would be needed to safeguard underlying roots and the boundary hedges. With light pedestrian traffic that can be achieved with heavy duty plywood or scaffold planks laid over a geotextile membrane and a layer of woodchip or similar material to even out any hollows. The hedge can be protected with sectional welded mesh fencing (Heras or similar) and heavy duty plywood.

5.5 The plan showing the proposed layout illustrates suitable layouts for fencing and ground protection and serves as the tree protection plan (TPP) recommended by BS5837:2012. Once the layout is finalised, these can be specified in more detail in an arboricultural method statement if required.

## 6 Conclusions

6.1 The trees are all large, healthy mature specimens growing in adjacent gardens. Rooting conditions are uniform, so circular RPAs are an accurate reflection of actual root spread.

6.2 The new building is within the RPAs of all three trees to varying degrees, but the incursions are small and within what the trees will tolerate, given the good rooting conditions in every other direction.

6.3 Parts of the building are near the trunks, particularly of trees 1 and 3, but are beyond the distances at which major structural roots are likely to be present.

6.4 This is a small scale project and the trees are not unduly vulnerable to direct or indirect harm from the work and can be safeguarded with some basic protective measures and work methods.

6.5 The attached plan illustrates suitable tree protection measures and is the tree protection plan recommended by BS5837:2012.

[redacted]

Simon Pryce, BSc, FArborA, RCArborA, CBiol, MICFor

**Site:** **91 Redington Road, London, NW3**

**Inspection date:** **4 January 20167 by Simon Pryce**

| Tree no. | Species | Age / vigour | Ht. m | Spread | | | | Dia. mm | RPA rad m | RPA area $m^2$ | Crwn ht. m | Comments and recommendations | Cat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | S | E | W | | | | | | |
| The trees are described from left to right as shown on the site plan. All three are in adjacent gardens so some dimensions are estimated. | | | | | | | | | | | | | |
| 1 | Sycamore *Acer pseudoplatanus* | M/N | 24 | 10 | 9 | 8 | 9 | 600<br>450<br>500 | 10.8 | 368 | 8 | Divides just above ground into three stems, possibly due to growing from the stump of a previously felled tree. Junctions between the limbs are narrow, but look well formed. Twig growth is slightly sparse and there is a hung up dead branch but it appears reasonably healthy. | B |
| 2 | Sycamore *Acer pseudoplatanus* | M/N | 18 | 5 | 6 | 4 | 7 | 550 | 6.6 | 137 | 8 | Leans and has a one sided crown due to the proximity of the other two trees but is not unduly suppressed. | C |
| 3 | Beech *Fagus sylvatica* | M/N | 23 | 12 | 6 | 9 | 11 | 750 | 9.0 | 254 | 5 | Divides at about 1.8m into two main limbs, but the fork between them is wide and strongly formed. Has retained a few seed pods from last year, which can be a sign of problems, but these are not particularly numerous and the tree appears reasonably sound and healthy. | B |

[redacted]

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**Notes**

Observations are made from ground level unless stated otherwise.
Trunk diameters are measured in millimetres at 1.5m above ground or at the narrowest point between the root buttresses and branch flare in multiple trunked trees; in such cases this is indicated by [c].
Crown spreads are taken from the trunk centre to the end of the longest live branches in the directions indicated [usually the four cardinal compass points]
Crown height is the clearance under the lowest significant branches.

Tree ages are estimated as below, based on the normal life expectancy of a tree of the species concerned on the site:

| | | |
|---|---|---|
| Immature. | [IM] | Newly planted or self-set tree. |
| Young | [Y] | Young tree that is established but has not yet attained the size or form of a fully developed example of its type. |
| Middle aged | [MA] | Between one third and two thirds of its estimated lifespan. |
| Mature | [M] | Over two thirds of it's estimated life span. |
| Over mature | [OM] | Declining and/or approaching the end of it's natural lifespan. |
| Dying/Dead | [D] | Dead/dying or so badly decayed that it should be removed without delay if a potential threat. |

Vigour is assessed on the basis of what is normal for that the species concerned as:

| | |
|---|---|
| High | [H] |
| Normal | [N] |
| Low | [L] |
| Dead / dying | [D] |

**Root protection areas [RPAs] - BS5837:2012**

For single trunked trees these are calculated as an area equivalent to a circle with a radius 12 times the trunk diameter at 1.5m. For multiple trunked trees it is based on the diameter of a single trunk that would have the same cross sectional area at 1.5m.

Any deviation from a circular plot should take into account the following factors whilst still providing adequate protection for the roots.

- The shape and disposition of the root system when known to be influenced by past or existing site conditions, such as the presence of roads, structures and underground services.
- Topography and drainage.
- The soil type and structure.
- The likely tolerance of the tree to root disturbance based on factors such as species, age and past management.

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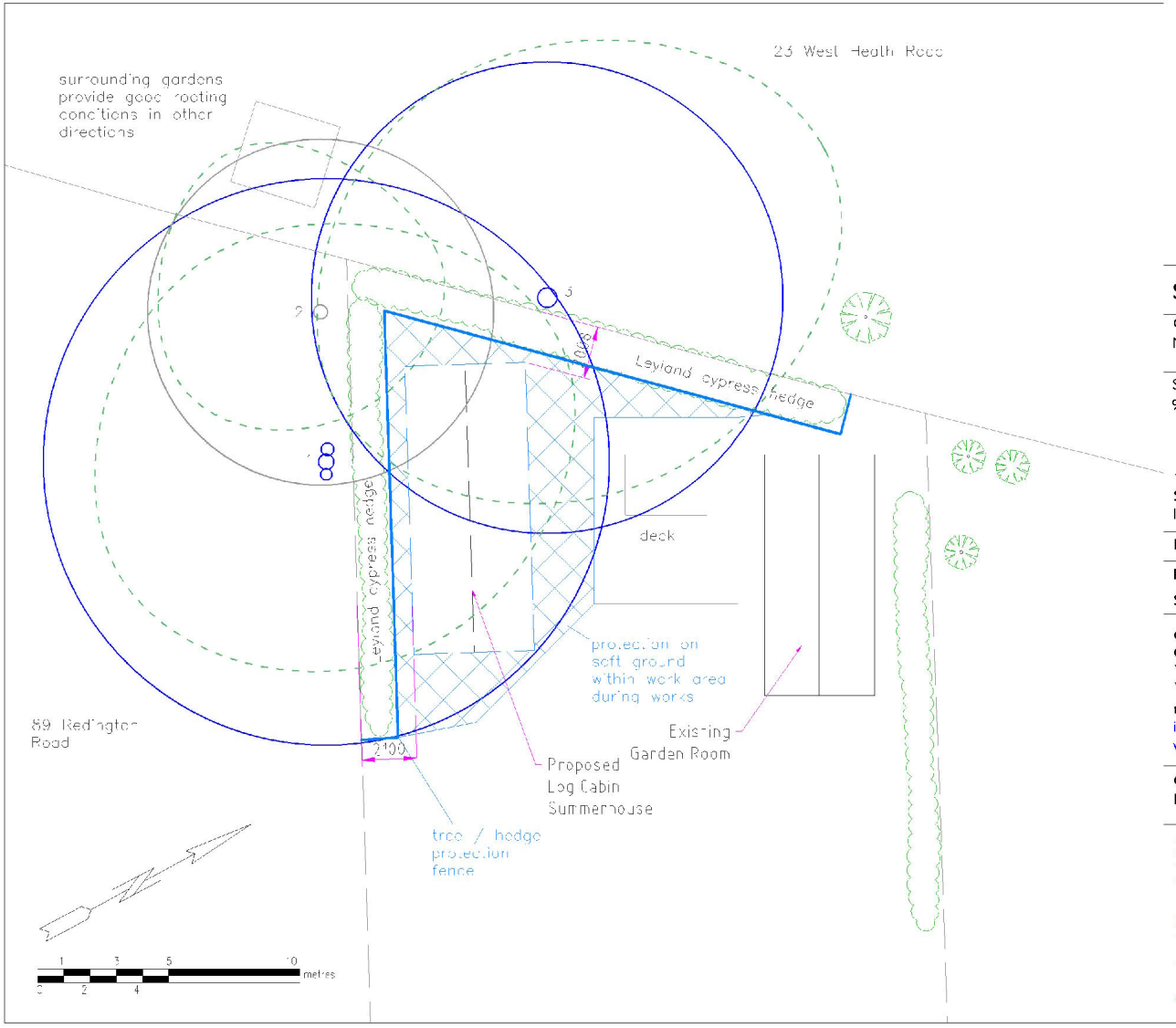
**Tree categories – based on BS5837: 2012, Trees in relation to design, demolition and construction - Recommendations**

| **Trees for removal** | | | | |
|---|---|---|---|---|
| **Category and definition** | | | | **Colour code** |
| **Category U** | | | | **Red** |
| 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 in the foreseeable future, including any that will become unviable after the removal of other U category trees. (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning.)<br>• Trees that are dead or showing signs of significant immediate and irreversible decline.<br>• Trees infected with pathogens significant to the health and/or safety of other trees nearby, or very low quality trees suppressing better ones nearby.<br>*NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.* | | | |
| **Trees for retention** | | | | |
| **Category and definition** | **Criteria – sub categories** | | | **Colour code** |
| | **1 – mainly arboricultural values** | **2 – mainly landscape values** | **3 – mainly cultural / conservation values** | |
| **Category A** | | | | |
| 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 historical, commemorative or conservation value. (e.g. veteran trees or wood -pasture) | **Green** |
| **Category B** | | | | |
| Trees of moderate quality with an estimated remaining life expectancy 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 benefits. | **Blue** |
| **Category C** | | | | |
| 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 benefit. | **Grey** |




## Simon Pryce Arboriculture

Client:
Mr & Mrs Eringer

Site:
91 Redington Road, London, NW3 7RR

Title:
Summer house in rear garden - proposed layout & tree protection plan (TPP)

Date: 4 January 2017

Ref: 16/099 Rev: a

Scale: 1:200 at A4

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Original drawing:
Derek Lofty & Associates

Root protection areas [RPAs] are colour coded according to retention category from BS5837:2012. Trees in relation to demolition, design and construction:

A = green
B = blue
C = grey
U = red - dashed - also used to denote dead trees with no RPA
Tree protection fencing = mid blue
Crown spreads = mid green