# Simon Pryce Arboriculture

## Report and arboricultural method statement

| | |
|---|---|
| **Client:** | **Mr S Litman** |
| **Site:** | **22 Kylemore Road, London, NW6 2PT** |
| **Subject:** | **Tree and proposed building work** |
| **Inspection date:** | **23 January 2015** |
| **Report date:** | **24 January 2015** |
| **Reference:** | **13/056/2 AMS** |
| **Author:** | **Simon Pryce, B.Sc., F.Arbor.A, C.Biol, MSB, MICFor**<br>**Arboricultural Association Registered Consultant** |

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Arboricultural Association
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## 1 Introduction

1.1 This report has been prepared on the instructions of Mr S Litman, the owner of 22 Kylemore Road, West Hampstead, NW6 2PT.

1.2 I have been asked to inspect a tree growing in the street in front of the house and to prepare a report on it, as set out in British Standard 5837: 2012, Trees in relation to design, demolition and construction. This report and method statement supersede my initial report of 21 August 2013.

1.3 The site was visited and the tree inspected initially on 14 August 2013, given the elapsed time it was reinspected on 23 January 2015. The inspections were visual and made from ground level, with no climbing or test boring as these were not warranted.

1.4 The tree was measured, its maturity, health and structural condition assessed and it was assigned to category C of the four [A,B,C,U] specified by BS5837. The individual description and other relevant information are contained in the attached schedule and it is shown on the site plans, based on originals prepared by Russoff Waud Associates

## 2 Background

### Site

2.1 No.22 Kylemore Road, which is a Victorian terraced house with a full height bay at the front, currently divided into flats. It has a basement, which extends out into a covered lightwell immediately in front of the bay and receives daylight through a pavement light in front of the centre of the bay and a roof light to the left, as seen from the street in front.

2.2 The front garden has an open bin store at the front right and a planting bed in the front left hands corner and is paved with concrete slabs. These are very uneven and two near the pavement were lifted, revealing roots up to about 70mm diameter immediately below growing through the sand on which the slabs were bedded. These have developed swollen pads where they have been in contact with the undersides of the slabs. These roots were not identified formally as that would have involved laboratory testing and the source is clearly the birch tree growing in the street in front of the house.

2.3 There are numerous underground services in the vicinity, including a drain under the front garden, while in the pavement there are inspection covers for telephone, cable TV and water, which evidently run along the pavement immediately in front of the garden walls.

### Proposal

2.4 This is shown on the drawings produced by Russoff Waud Associates and the aspect with which this report is concerned is the extension of the existing lower ground floor under the path at the left hand side of the front garden, the construction of steps to provide a new separate entrance for the lower ground floor flat and rebuilding the front and side walls. Camden Council have expressed concern about possible effects on a birch tree growing in the street in front.

## 3 Tree

3.1 The only significant tree in the vicinity is a mature birch that belongs to Camden Council, growing in the pavement opposite the left hand side boundary of the property. It is described in more detail in the schedule and shown on the site plan, but is a substantial specimen that has had its crown reduced (cut back) regularly on a cycle of about two years. This was sense and bushy in 2013 and was recut shortly before the 2015 inspection.

## 4 Discussion

### 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.

4.2 British Standard 5837: 2012, Tree in relation to design, demolition and construction – Recommendations, specifies measures to avoid or minimise damage to trees that are retained on or near construction sites. One of the more important recommendations is that root protection areas [RPAs] are established round retained trees and that no ground work takes place within them. These are normally enclosed by suitable fencing such as weld mesh sections supported by scaffold poles driven into the ground.

4.3 The size of the RPA is based on the size of the tree concerned. The starting point is that for a single trunked tree it has an area equivalent to a circle with a radius 12 times the trunk diameter at 1.5m. The shape and layout of the RPA can be modified, if this is deemed appropriate, particularly where there is evidence that root spread is uneven.

### Implications of the proposed building work

***Root protection area (RPA)***

4.4 The root protection area has been shown on the plan as a circle in order to illustrate the area concerned, although in practice few roots will have grown under the carriageway, so a proportionately greater amount will be under the pavement and in the front gardens. However the tree's root spread will be proportional to the crown volume, which is reduced regularly, while the RPA is based on the trunk diameter, which has not been affected as much by the pruning. Therefore the actual root extent will be smaller than the calculated value might suggest. Significant roots were found in the front garden, but these have exploited the favourable growing conditions immediately under the slabs, so there are likely to be fewer at depth.

***Effects of the proposal***

4.5 The proposal involves extending part of the lower ground floor farther into the RPA. The additional area excavated is about 9.3m². About 4.8m² of that is within the RPA if it is drawn as a circle, amounting to about 5.3% of 90m². However as roots will have exploited the front garden in preference to the ground under the road it is more realistic to use the 9.3m² figure, which equates to 10.3% of the RPA. The tree is in reasonable physiological health and that is within what it will tolerate, although some care and protective measures will be needed in order to safeguard it. That would include:

- Initially lifting slabs and pruning any shallow roots by hand.
- Hand excavation until well below rooting depth.
- Fence or plywood hoarding round the planting pit protect the trunk and soft ground round the tree's base against incidental impact damage from vehicles, compaction or contamination.
- Ensuring that potentially harmful activities such as cement mixing take place well away from the tree in order to avoid contamination.

4.6 The new garden wall is also within the RPA and is closer to the tree than the excavation. However it is a lightweight structure and adverse effects on the tree can be minimised by supporting it on lintels spanning between hand dug bases or a beam supported on piles. Alternatively it could be replaced with a fence, although that would change the character and appearance of the property.

4.7 The method statement on the following pages specifies and illustrates the tree protection measures referred to above.

## 5 Summary and conclusions

5.1 The proposal involves some excavation near the tree, but that represents a relatively small proportion of the overall root area and it could be worked round and safeguarded with the protective measures set out in the method statement and shown on the tree protection plan.

*Simon Pryce*

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Arboricultural Association Registered Consultant

## Tree protection method statement - 22 Kylemore Road, NW6 2PT

This document is to be read in conjunction with the survey report and tree protection plan [TPP]. Any queries are to be referred to the arboriculturist.

### Preliminaries

1. Before any deliveries or building work start the trunk of the tree in the street is to be boxed in up to the first branches to protect against impacts using 18mm minimum thickness plywood, details as shown on the inset in the TPP. An alternative such as a scaffolding frame would be acceptable, provided this cannot move and the bark is protected by padding.

2. The box is to enclose the soft ground round the tree. Alternatively a smaller box can be installed round the trunk and the soft ground protected by one of the proprietary systems such as the one illustrated at figure 2.

3. No equipment, machinery or structure shall be attached to or supported by the tree or the protective box.

4. The tree protection is not to be moved or dismantled without the agreement of the arboriculturist.

5. The tree protection is to have at least one warning sign, as shown in figure 2, or a suitable alternative giving the same information.

### Work methods

6. Any roots found in the work area are unlikely to be significant, but any over 25mm diameter found there should be covered to prevent them drying out and the arboriculturist notified. Smaller roots can be cut cleanly.

7. Cement and concrete mixing must take place as far as possible from the tree, over a suitable hard surface to prevent soil contamination from spillage or washing out onto the pavement.

### Storage

8. No materials are to be stored where there is any risk of spillage or runoff contaminating the soil under the pavement.

### Completion

9. Once site work is complete the tree is to be reinspected for any signs of damage during the work and any remedial pruning carried out.

**Contact details**

| Position | Name | Phone | Mobile | e mail |
|---|---|---|---|---|
| Arboriculturist | Simon Pryce | 01923 467600 | 07710 224906 | info@simonpryce.co.uk |
| Project managers | Russoff Waud Associates | 020 8385 7301 | 07710 526086 | barryrussoff@aol.com |
| Owners | Mr & Mrs Litman | | 07900 324260 | dianelitman21@hotmail.com |
| Main contractor | TBA | | | |
| Site manager | TBA | | | |

**Figure 1 - Warning sign for tree protection fence**

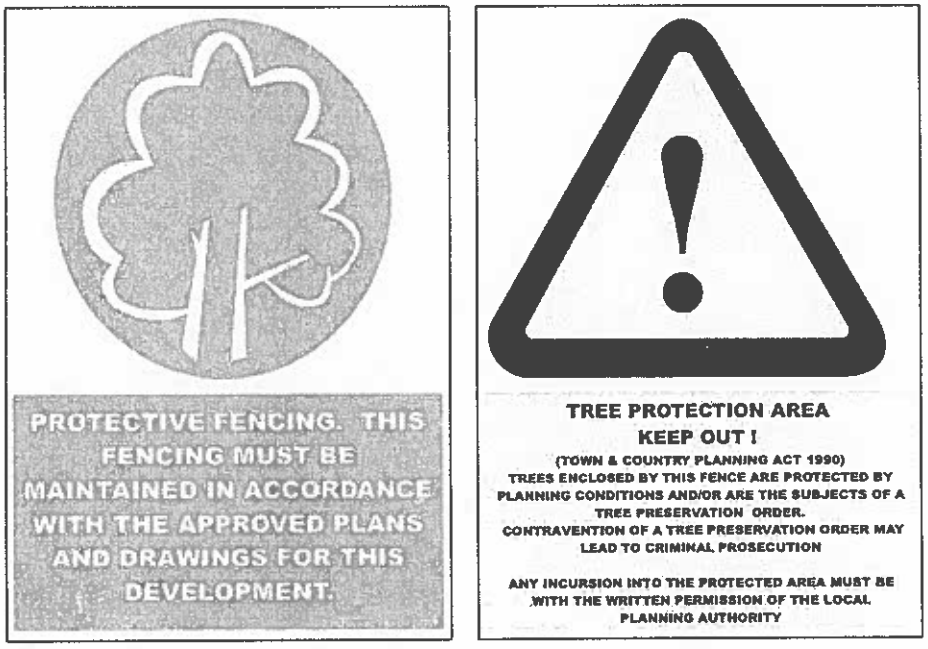
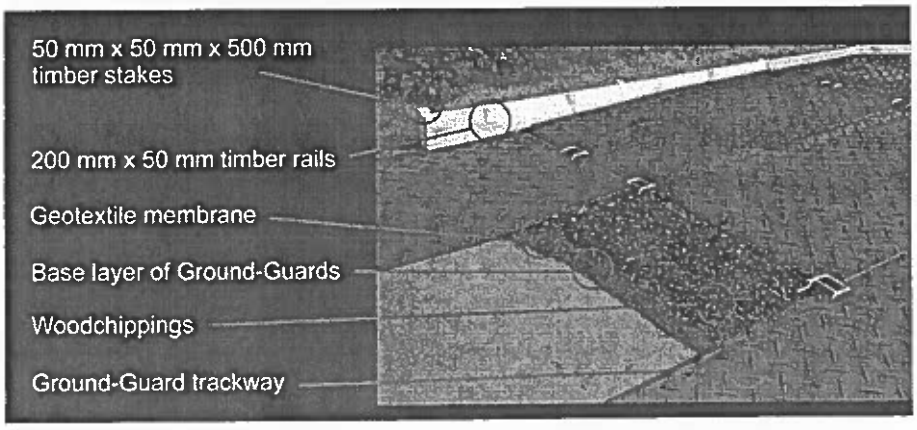



**Figure 2 - Proprietary ground protection system**



**Site:** 22 Kylemore road, London, NW6 2PT

**Inspection date:** 14 August 2013 and 23 January 2015 by Simon Pryce

| Tree no. | Species | Age / vigour | Ht. m | Spread | | | | Dia. mm | RPA rad m | RPA area $m^2$ | Crwn ht. m | Comments | Cat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | S | E | W | | | | | | |
| The tree is growing in the pavement in front of the house, as shown on the site plan. | | | | | | | | | | | | | |
| 1 | Birch *Betula pendula* | M/N | 10 | 4 | 4 | 4 | 4 | 440 | 5.3 | 90 | 3 | Well established tree that has been crown reduced regularly with other trees in the street. In 2013 it had a dense bushy crown, some time between then and January 2015 it was recut, leaving some shoots, mainly round the pruning points. Has some damage on the tops of roots near the road but no signs of decay. The slabs in front of no.22 have been disturbed and are highly uneven. Two were lifted revealing significant numbers of roots up to about 70mm diameter underneath, some with swollen pads on top where they have been growing under the slabs and lifting them. | C 1 |

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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.

**Site:** 22 Kylemore road, London, NW6 2PT

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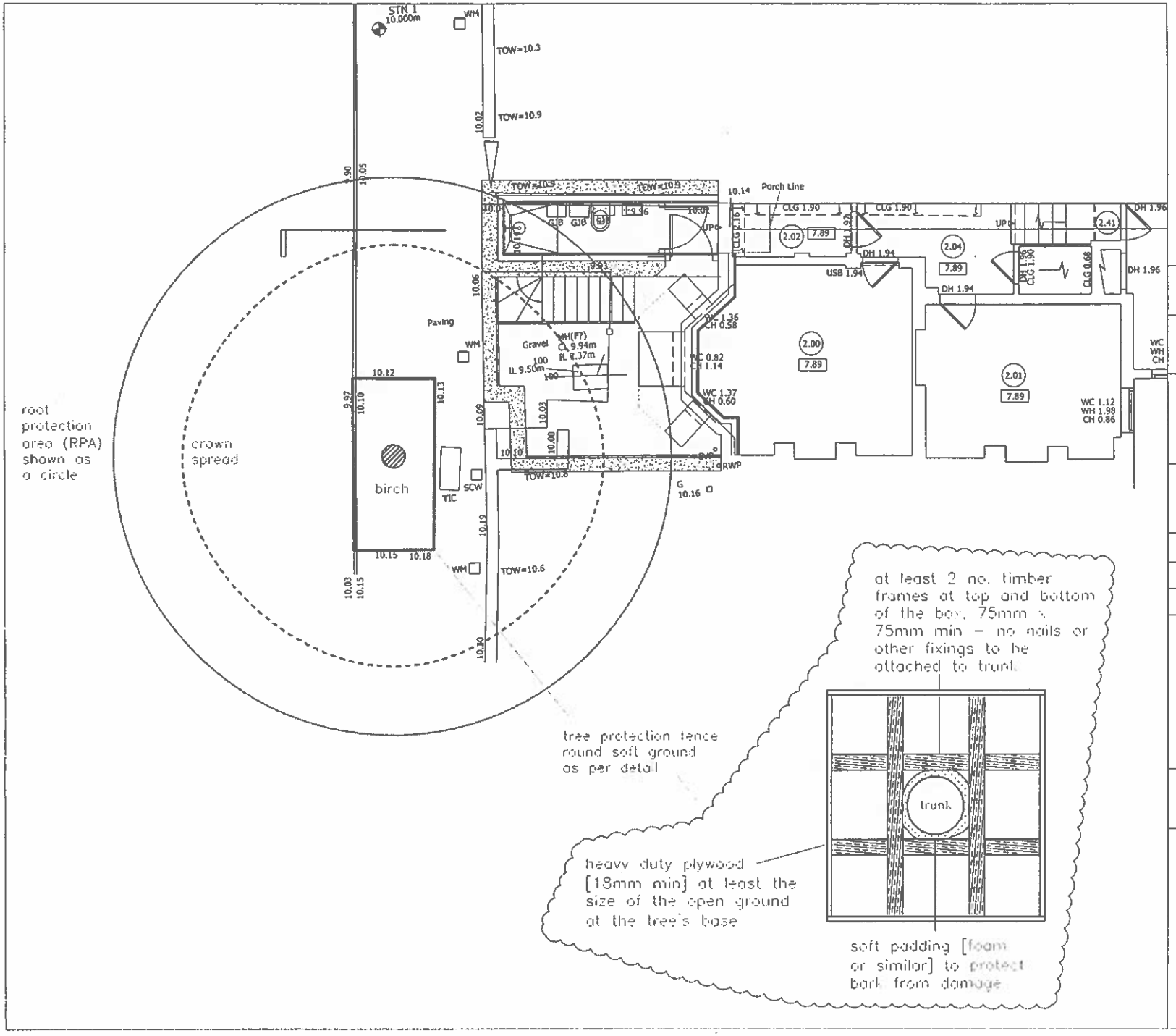
**Tree categories – based on BS5837: 2012, Trees in relation to design, demolition and construction - Recommendations**

| **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** | | | **Identification on plan** |
| | **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 Litman

Site:
22 Kylemore Road, London, NW6 2PT

Title:
Tree and building work proposed site and tree protection plan

Date: January 2015

Ref: 13/056 | Rev: a

Scale: 1:100 at A4

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Original drawing:
Russoff Waud 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