Simon Pryce Arboriculture

Report

Client:	**Mr & Mrs S Sandring**
Site:	**107a Priory Road, London, NW6 3NN**
Subject:	**Trees and proposed building work**
Inspection date:	**26 March 2015**
Report date:	**1 April 2015**
Reference:	**14/167**
Author:	**Simon Pryce, B.Sc., F.Arbor.A, C.Biol, MSB, MICFor** **Arboricultural Association Registered Consultant**

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Arboricultural Association
REGISTERED CONSULTANT

1 Introduction

1.1 This report has been prepared on the instructions of Nicholas Lee Archticts, who are acting for Mr & Mrs Sandring in respect of proposed building work at 107a Priory Road, NW6 3NN.

1.2 I have been asked to inspect trees growing on and 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.

1.3 The site was visited and the trees inspected on 26 March 2015. The inspection was visual and made from ground level, with no climbing or test boring as these were not warranted.

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 description and other relevant information are contained in the attached schedule and it is shown on the site plans, based on originals prepared by Nicholas Lee Architects.

2 Background

The site

2.1 No.107a is a two storey semi detached house which dates from about the late 19th or early 20th century. The rear garden is about 8m wide by 18m long with a paved section near the back of the house from which some low steps lead up to the main part. This is level and laid mainly to lawn, with a water feature and some planting beds round the edges.

2.2 The site is in South Hampstead Conservation Area. A telephone enquiry showed that none of the trees in the garden are subject to tree preservation orders (TPOs). The only protected tree in the vicinity is a Norway maple beyond the rear left hand boundary of the garden, well away from the work area.

Trees

2.3 There is a small crab apple tree near the left hand side of the lawn, but the two most significant trees are a dawn redwood and a birch growing on the lawn. They are well established but not particularly old and might have been planted at the same time about 30 years ago.

Proposal

2.4 This is shown on the drawings produced by Nicholas Lee architects and is to carry out various works. The most significant as far as the trees are concerned is the construction of a basement under the existing footprint of the house, extending slightly farther to the front and rear. At the rear it extends under the existing paving near the house about as far as the existing steps up onto the lawn.

3 Discussion

3.1 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.

3.2 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.

Root protection areas

3.3 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 where there is evidence that root spread is uneven, but in this case ground conditions near the trees are reasonably uniform, although the steps down to the paved area behind the house will inhibit root spread to some degree. Therefore the RPAs have been treated as circular, as shown on the plans.

Direct implications

3.4 The only tree with an RPA that would be affected by the work is no.2, the dawn redwood. With the RPA drawn as a circle the area excavated to form the basement is about 4.3m^2 or approximately 7% of the RPA. That is well within what a healthy tree like this will tolerate, particularly as the area concerned is at a lower level than the lawn and under existing paving, so root are less likely to be present there.

Indirect implications

3.5 This is a small scale domestic project and the trees are to the rear, well away from the only access and delivery routes and the work areas. They could be harmed if the lawn was used for storage of heavy materials or potential contaminants, or if that area was used for activities such as cement mixing. However the site layout means that they are not unduly vulnerable and they can be safeguarded with a single run of fence across the garden near the existing steps.

3.6 Some access will be needed into the RPA of tree 2 in order to carry out the work. That can be allowed by setting the fence back by about 1m to allow work space and protecting the soft ground with a suitable material such as scaffold planks or heavy duty plywood.

3.7 The site plan showing the proposed layout shows suitable layouts for fencing and ground protection and serves as the tree protection plan (TPP) recommended by BS5837:2012.

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4 Summary and conclusions

4.1 The two larger trees are both good specimens, but are set back from the house. The only tree directly affected is the dawn redwood, which has part of the new footprint within its RPA, but the incursion is small and well within what it will tolerate.

4.2 The trees are well away from any access routes and work areas, but could be vulnerable if the lawn is used for storage or activities such as cement mixing.

4.3 However they can be protected from direct and indirect harm with a simple run of fence across the rear garden and ground protection in the small work area that will be needed within the RPA of tree 2.

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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 in order, starting near the house and going towards the end of the garden.													
1	Apple *Malus* variety	M/N	5	1.5	3	3	2	160 60	2.1	13	2	One sided and slightly suppressed where it has been shaded by the dawn redwood. Reasonably healthy otherwise, but not a good specimen.	C2
2	Dawn redwood *Metasequoia glyptostroboides*	MA/N	17	3	3.5	3.5	3	370	4.4	61	5	Slightly one sided and has some ivy, which is starting to encroach into the crown, but is otherwise sound and healthy and has good potential.	A1
3	Birch *Betula*	MA/N	16	6	5	5	5	400	4.8	72	6	Multiple stemmed from about 5m and leans slightly to the north, but there are no signs that it has moved in the ground recently. Has ivy and a clematis starting to grow into the crown. There is some dead wood, but that is normal in mature trees.	B1

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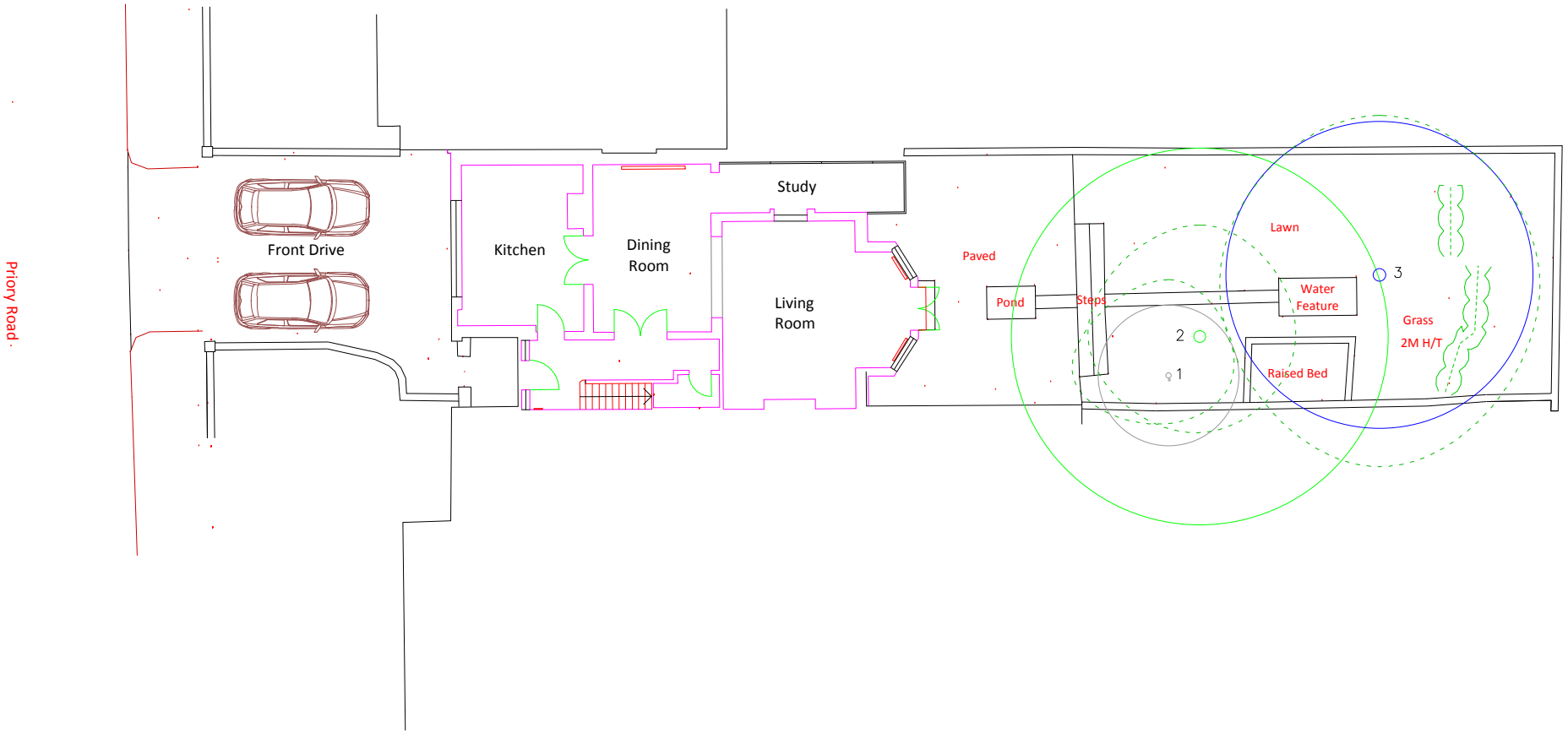
Tree categories – based on BS5837: 2012, Trees in relation to design, demolition and construction - Recommendations

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.) • Trees that are dead or showing signs of significant immediate and irreversible decline. • Trees infected with pathogens significant to the health and/or safety of other trees nearby, or very low quality trees suppressing better ones nearby. *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**



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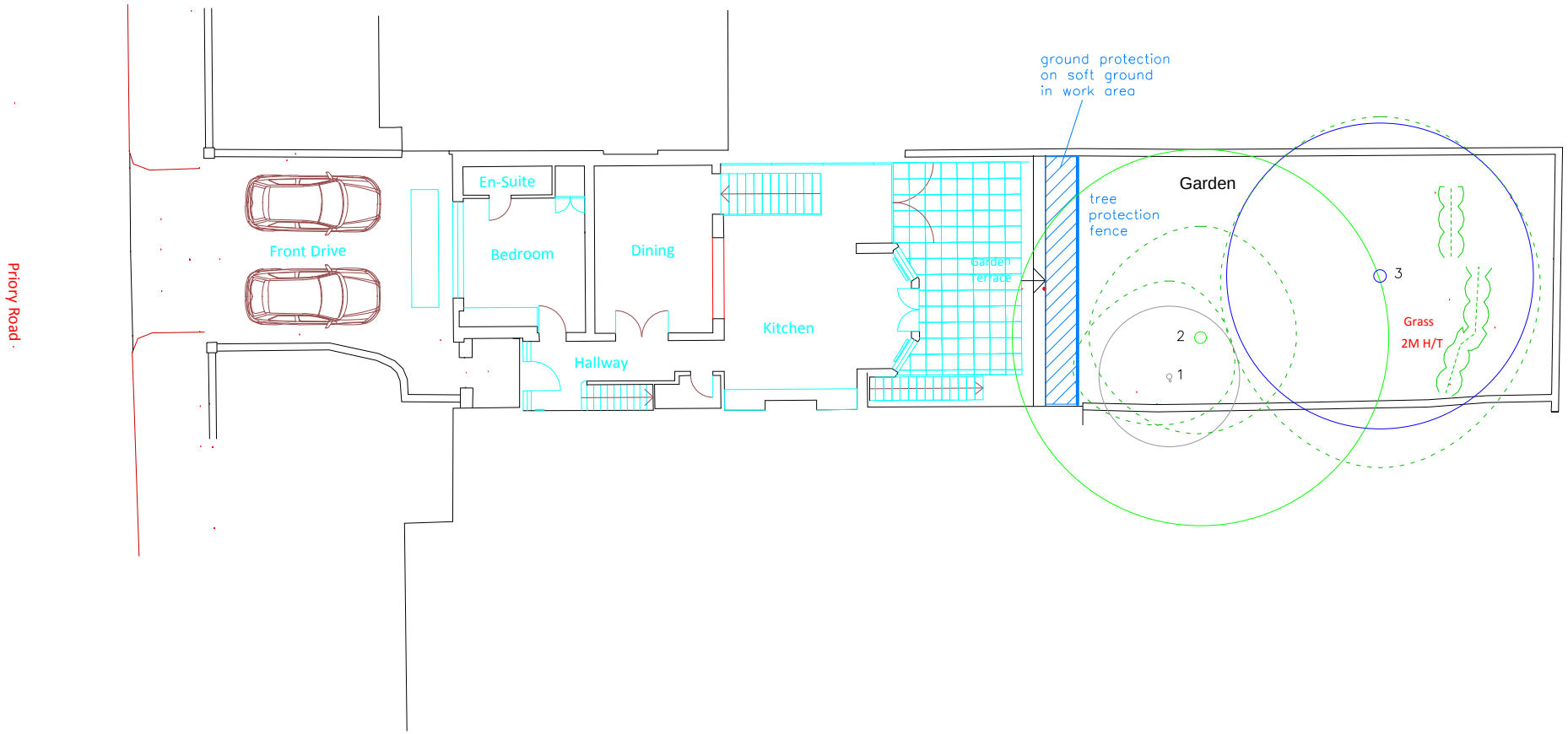
Client: Mr & Mrs S Sandring		Ref: 14/167	Rev: a
Site: 107a Priory Road, London, NW6 3NN		Scale: 1:200 at A4	
Title: Trees and building work - existing layout		Original drawing: Nicholas Lee Architects	
Date: 26 March 2015			

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

N

1 3 5 10
0 2 4 metres



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Client: Mr & Mrs S Sandring		Ref: 14/167	Rev: a
Site: 107a Priory Road, London, NW6 3NN		Scale: 1:200 at A4	
Title: Trees and building work - proposed layout and tree protection plan (TPP)		Original drawing: Nicholas Lee Architects	
Date: 26 March 2015			

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

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