Simon Pryce Arboriculture

Report

Client:	**Mr & Mrs Koffel**
Site:	**56 Hawtrey Road, London, NW3 3SS**
Subject:	**Magnolia in adjacent garden and proposed extension.**
Inspection date:	**24 June 2015**
Report date:	**5 July 2015**
Reference:	**15/035**
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 Mr & Mrs Koffel in respect of a proposal to extend the rear of no.56 Hawtrey Road, NW3 3SS.

1.2 I have been asked to inspect a magnolia growing in the adjacent garden and to prepare a report on it and the implications of the proposal, as set out in British Standard 5837: 2012, Trees in relation to design, demolition and construction.

1.3 The site was visited and the tree inspected on 24 June 2015. The inspection was visual and made from ground level, from the rear gardens of nos.56 and 58.

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 Anna Williamson Architects.

2 Background

The site

2.1 No.56 Hawtrey Road is a three storey town house that dates from about the 1960s. The rear garden is about 5.8m wide by 5.6m deep, bounded by the similar sized gardens of no.54 to the left (north) and no.58 to the right and by a footpath to the rear, with other gardens just beyond. The rear garden of 56 is bounded by a mixture of brick walls and fences about 1.8m high, paved with concrete slabs and has planting beds at the sides.

2.2 The local planning authority is the London Borough of Camden and their website shows that the gardens are not in a conservation area.

Proposals

2.3 An earlier proposal to extend the house into the rear garden by 3m has been granted consent, which is still valid.

2.4 The current proposal is shown on the drawings produced by Anna Williamson Architects and in this the extension is reduced to 2.5m and has a basement under the footprint. Following receipt of the application Camden Council have asked for a report assessing the condition of a magnolia growing in the rear garden of no.58 and the arboricultural implications of the proposed work. This report addresses that.

3 Tree

3.1 The tree is a saucer magnolia, *Magnolia soulangeana* and is growing in the rear garden of no.58, as shown on the site plans and the owner advised that it is about 30 years old. It is in an L shaped raised planting bed about 330mm high and the trunk base has a normal flare and root buttresses where it meets the ground, indicating that it was planted in the bed, rather than the bed being built round it. It is not clear whether it is possible for roots to grow out of the planting bed into the ground, but some fairly large ones are present on the surface in the bed, suggesting that most of them are being contained by it.

3.2 Full details and dimensions are in the schedule at pages 5 - 7.

4 Discussion

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. This recommends that root protection areas [RPAs] are established round retained trees and that no ground work should normally take place within them unless measures are taken to safeguard the trees. RPAs are normally enclosed by suitable fencing such as weld mesh sections supported by scaffold poles driven into the ground.

Root protection areas

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 of the RPA can be modified where there is evidence that root spread is uneven or where there is sufficient rooting space in other directions to compensate for working closer to the tree on one side.

Implications for this case

4.4 It is possible that the tree's root system is entirely confined within the planting bed and, if some roots have grown into the soil below they are likely to have spread less than they might if the tree had been rooted in the ground. Ground conditions within the gardens appear reasonably uniform, so the RPA has been shown as a circle, although actual root spread is likely to be less than that might suggest. This shows that the corner of the currently proposed extension and basement impinge on the RPA by about 0.49m^2 or about 2.7% of the RPA. Even if the roots have not been confined by the planting bed that is well within what a healthy tree like this will tolerate.

4.5 The local subsoil is London clay, so foundations of a building with no basement would need to be a minimum of 1m deep. Magnolias are low water demanding species, so the NHBC guidelines (NHBC Standards Chapter 4.2) would not require the foundations to be any deeper than that to allow for any likely effects of this tree's roots. As most roots are shallower than 600mm, particularly with a small tree like this, it makes no difference to the tree whether or not the extension has a basement. In this case the consented 3m rear extension would take up about 0.97m^2 of the RPA, i.e. about twice as much root disturbance as the current 2.5m proposal, but still within what the tree would stand.

Tree protection

4.6 This is a small scale project and the tree is in a separate garden, so it is not vulnerable to incidental damage from things such as vehicle impacts or soil compaction or contamination. It is already protected by the existing boundary fence and walls and the paving in the garden of no.56 will protect underlying roots. That can be supplemented during the work by the normal building site safety fence which will be required on the side boundary and by protecting any soft ground within the RPA with heavy duty plywood or scaffold boards.

4.7 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. Once the layout is finalised, this can be the basis of an arboricultural method statement, which can be made a condition of consent.

5 Summary and conclusions

5.1 The magnolia is mature and in good health.

5.2 It is growing in a raised planting bed which has confined the root system and restricted any spread into the soil below. Rooting conditions in the ground near the tree appear uniform, so the RPA has been shown as a circle, although actual root spread is likely to be less than that would suggest.

5.3 If roots are present under no.56 the extent to which the proposed extension impinges into the tree's RPA is small and well within what a healthy specimen like this will tolerate.

5.4 Normal foundations are deeper than most roots, so it makes no difference to the tree whether or not the building has a basement and the permitted 3m extension would cause more disturbance in the rooting area than the proposed 2.5m one with its basement.

5.5 The tree is not vulnerable to incidental damage and can be safeguarded additionally during the work by some basic fencing and ground protection as shown on the proposed plan. That can be specified in more detail in a method statement if required.

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Inspection date: **24 June 2015**

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 tree is in the rear garden of no.58, the adjacent house to the right (south) as shown on the plan.													
1	Magnolia *Magnolia soulangeana*	MA/N	8	3	3.5	2.5	3	200	2.4	18	2.5	Growing in a raised bed about 330mm high, which was there when the present owner moved in about 30 years ago. The tree has a normal flare at the base indicating that it was planted in the bed, not that the bed was built around it. It is not clear whether or not it is possible for roots to grow though the base of the bed down into the ground, but several are present on the surface in the bed, indicating that their growth is being confined. Foliage is healthy indicating good general vitality, although the leaves are not very large or dense.	C1

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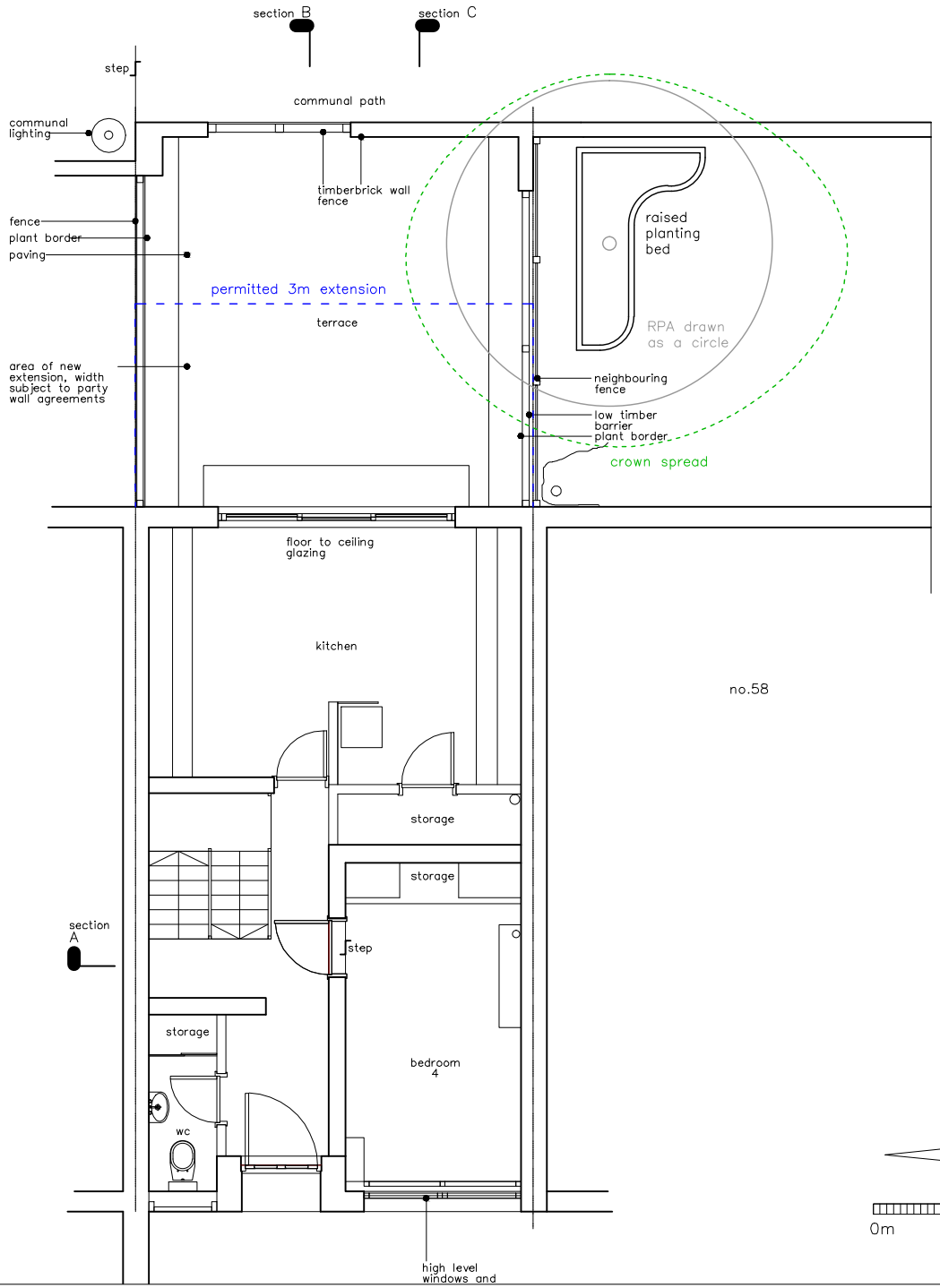
Tree categories – based on BS5837: 2012, Trees in relation to design, demolition and construction - Recommendations

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 Koffel

Site:
56 Hawtrey Road, London,
NW3 3SS

Title:
Trees and new basement - existing site

Date: 24 June 2015

Ref: 15/035 | Rev: a

Scale: 1:100 at A4

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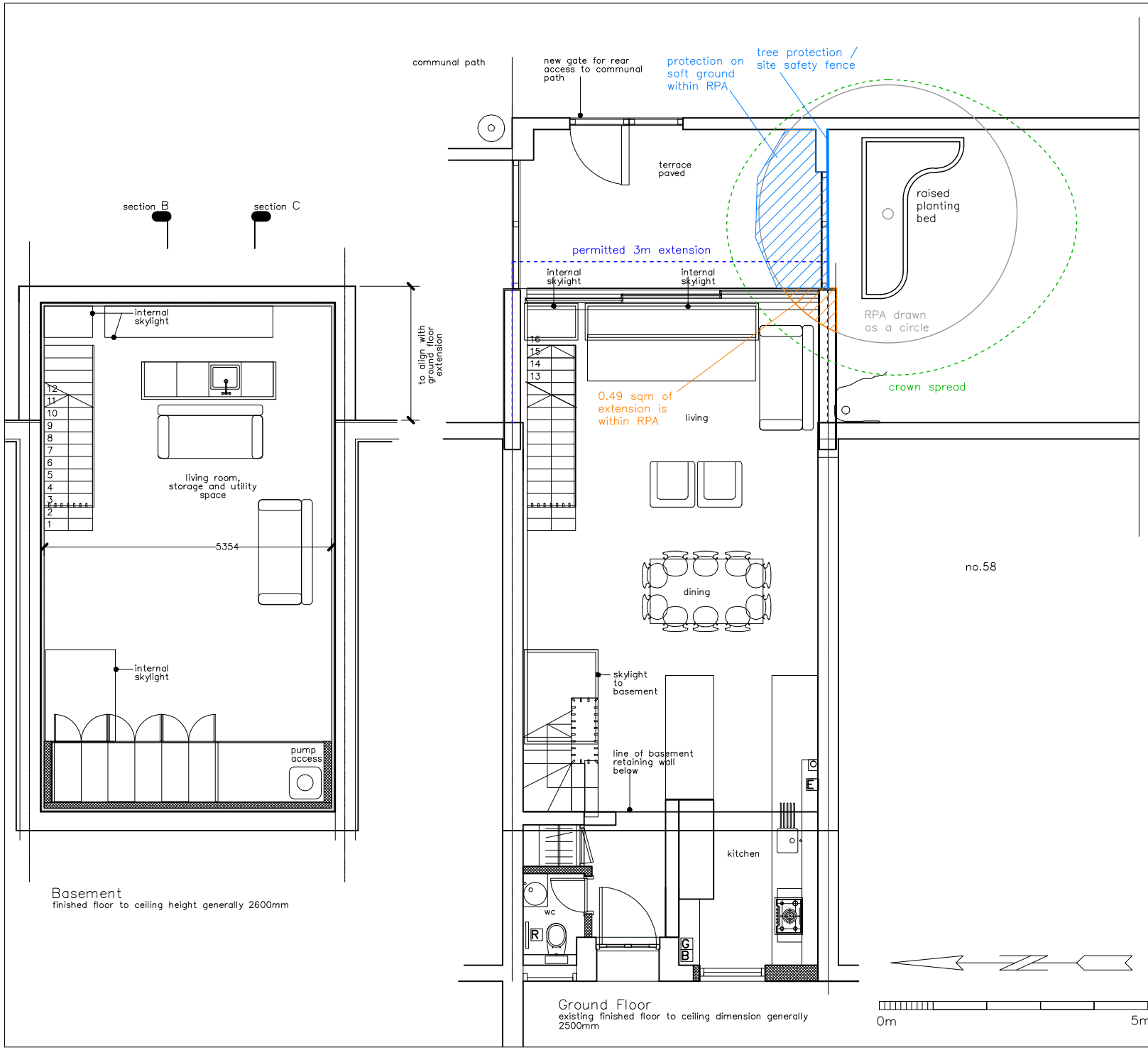
Original drawing:
Anna Wilkinson

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



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Client:
Mr & Mrs Koffel

Site:
56 Hawtrey Road, London,
NW3 3SS

Title:
Trees and new basement - proposed site and tree protection plan (TPP)

Date: 24 June 2015

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