Arboricultural impact analysis

Trees

at

195 Goldhurst Terrace
London
NW6 3ER

For

Mr and Mrs C Caudwell

Skerratt
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1. Introduction

1.1 This report contains a detailed appraisal of 2 trees standing within the rear garden of 195 Goldhurst Terrace, London NW6 3ER in relation to the erection of a proposed free-standing, single-storey garden room.

1.2 The report considers the health and safety of the trees under their current growing conditions and sets out the constraints that should be observed in planning and implementing the proposed development, measured against the advice and guidance set out in *BS5837 2012: Trees in relation to design, demolition and construction – Recommendations.*

1.3 The site inspection for the tree survey on which this report is based took place on the afternoon of Wednesday 15 June 2016 in dry, sunny conditions.

1.4 The report was commissioned by the client in an email dated 10 June 2016.

1.5 I have been provided with the following drawing in digital (dwg) format:

- David Balkind Design Drawing No. 400-200 – General Arrangement Plan (proposed)

1.6 The **Tree survey plan** in **Appendix a** is based on Ordnance Survey Mastermap digital data and additional on-site measurements. The **Tree constraints plan** in the same appendix is based on the same information as the tree survey plan with the footprint of the proposed structure taken from David Balkind Design Drawing No. 400-200, overlaid.

2. Background information

2.1 Site layout, boundaries and topography

2.1.1 195 Goldhurst Terrace is a substantial Victorian end-of-terrace dwelling on 4 levels (lower ground, raised ground, first and second floors), standing in a long narrow rectangular plot, the longer axis of which runs roughly north-west to south-east.

2.1.2 The rear garden, in which the trees stand, is at lower ground floor level. Its surface is level throughout except for a shallow, narrow bank abutting the rear boundary.

2.1.3 The short rear and long, north-east facing side boundaries are fenced with 1800mm high timber panel fencing in good condition.

2.1.4 An approximately 1500mm high brick wall runs along the south-west facing side boundary.

2.1.5 The **Tree survey** and **constraints plans** in **Appendix a** show the existing layout and the footprint of the proposed development.

2.2 Geology and soils

2.2.1 According to British Geological Survey (BGS) open-source data, the plot is located on deep Palaeogene London Clay bedrock.

2.2.2 No soil sampling was carried out on site.

2.3 Planning constraints

2.3.1 The site is within the London Borough of Camden South Hampstead Conservation Area.

2.3.2 The trees referred to in this report are not covered by a Tree Preservation Order (TPO).

2.4 The trees

2.4.1 The **Tree survey schedule** in **Appendix a** describes in detail, the 2 trees referred to in this report.

2.5 The proposed development

2.5.1 The principal elements of the proposed development referred to in this report are:

- The construction of a single storey garden room from prefabricated panels mounted on pad foundations
- Minor external works and making good

3. Analysis

3.1 General

3.1.1 The **Tree constraints plan** in **Appendix a** shows the RPAs of both trees arranged symmetrically around their stems. The RPAs highlight the primary potential area of conflict between proposed development and retention of existing trees, namely conflicting demands for space at and below ground level.

3.2 Trees to be removed

3.2.1 No trees are to be removed to enable the development to be carried out.

3.3 Trees to be retained

3.3.1 Almost the complete footprint of the proposed structure is within the RPA of Sycamore 001 or Lime 002, or both.

3.3.2 Because of this overlap, the structure's foundations have been designed to minimise disruption below existing ground level.

3.3.3 Construction details are shown on David Balkind Design Drawing No. 400-200. It is proposed to construct the new building's (timber) floor above existing ground level on 400mm deep concrete pads.

3.3.4 Judging from the drawing, the pads will be less than 500 x 500mm square in plan and will be at approximately 2000mm centres. If these assumptions are correct, approximately 15 pads will be required in total.

3.3.5 I understand that there can be some flexibility in the positioning of individual pads. For the purposes of this impact analysis I have assumed that individual pad locations may be adjusted laterally by up to 300mm.

3.3.6 A substantial proportion of the proposed footprint area is already covered by a concrete raft of variable depth. I estimate that its minimum depth may be 100mm.

4. Conclusions.

4.1 Providing that *unnecessary* disruption is avoided, I consider that the proposed foundation pads can be constructed without significant adverse impacts on the root systems of either of the 2 trees referred to in this analysis.

4.2 The building itself is lightweight and will be assembled in sections (no vehicular access to the location of the proposed development). Provided that simple protective measures are put in place beforehand there need be no adverse impacts from construction activities above ground.

4.3 It will be necessary to lift the crown of Lime 002 to create sufficient headroom for the proposed building but this can be achieved without the need for large (>50mm diameter) pruning cuts.

4.4 Exploratory works will be required in the course of foundation pad construction, to ensure that large-diameter (over 20mm) roots are not damaged. Simple protective measures will be also required to prevent leachate from curing concrete entering the root zone of either tree if pads are to be cast *in-situ.*

4.5 Appropriate tree protection measures and working practices are set out in the Arboricultural Method Statement (AMS) accompanying this report. The AMS must form an integral part of the construction contract.

Appendix a

Tree survey schedule
Tree survey plan
Tree constraints plan

Explanatory notes

For general information on any entry in the detailed survey text, refer to the notes below which are organised on a column by column basis.

Tree number
All trees have been numbered in the survey text to correspond to the location numbers shown on the accompanying Tree survey plan. No trees have been marked on site.

Species
Common English names have been used wherever possible and Latin names are listed (in brackets in *italics*) in all cases.

Dimensions

Height - are recorded in m.

Stem diameter – recorded in mm at breast height (1.5m) wherever possible. Where measurement at 1.5m is not possible, one of the alternative methods set out in *Annex C of BS5837:2012* has been used.
If the diameter has been measured at a different height, this has been recorded, e.g. 60 @ 1m = 60mm diameter at 1m height.
Other abbreviations used:

av - average	est/e - estimated	
ms - multi-stemmed	max – maximum	gl - ground level

Crown spread - radial crown spreads in metres have been recorded at four points on the circumference of the crown (north, east, south and west). The accompanying Tree survey plan shows approximate crown shapes based on these measurements

Crown height - the height of the first major branch and the height of the lowest point of the crown are recorded in metres eg 3/3

Explanatory notes

Age

Y	Young	SM	Semi-mature
EM	Early mature	M	Mature
OM	Over-mature		

Where the precise age of a tree is known, it has been recorded in brackets adjacent to the general classification i.e. M(7).

Condition

Physiological condition

Gives a measure of biological vigour and of the presence or absence of disease, insect attack or other debilitating factors.

G	Good
F	Fair
P	Poor

Structural condition

Gives a measure of each tree's physical form and mechanical stability.

G	Good
F	Fair
P	Poor

Comments

Descriptive notes on the tree's shape, local environment and condition.

Recommendations

Management recommendations under existing conditions.

Explanatory notes

RPA radius
The radius of each tree's Root Protection Area (RPA) as defined in *BS5837:2012 – Trees in relation to design, demolition and construction - Recommendations*

Life expectancy
An approximate estimate for each tree's anticipated future safe life in the following ranges:

- <10 years
- 10-20 years
- 20-40 years
- 40+ years

Retention category
This grading is based on the recommendations set out in BS 5837:2012 *Trees in relation to design, demolition and construction - Recommendations.* The categories are summarised in the standard as follows:

- A Trees of high quality with an estimated remaining safe life of at least 40 years
- B Trees of moderate quality with an estimated remaining safe life of at least 20 years
- C Trees of low quality with an estimated remaining safe life of at least 10 years, or young trees with a stem diameter below 150mm
- U Trees 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

In addition the British Standard requires one or more subcategories to be applied to the main Retention Category. In summary these are as follows:

1. Mainly arboricultural qulaities (that is individual aesthetic characteristics)
2. Mainly landscape qualities
3. Mainly cultural values, including conservation

Pre-contract tree works schedule

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Tree No.	Species	Height (m)	Diam (mm)	Crown Spread (m)				Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Pre -contract Recommended Works	RPA Radius (m)	Life Expectancy	Retention Category	Retention Sub-Category
				N	E	S	W										
001	Sycamore (*Acer pseudoplatanus*)	15	400	3	3	3	3	6/6	M	G	G	Single upright stem: narrow but well balanced crown that has been lifted and reduced in height and spread in the past: stands against the rear garden boundary fence	No immediate action required	4.80	20-40	C	1
002	Lime (*Tilia x europaea*)	12	480	5	4	3	4e	2/3	M	G	G	Single upright stem:; spreading rather one sided (to N) crown has been reduced in spread in the past and lifted	No immediate action required	5.76	40+	B	1

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Location: 195 Goldhurst Road, London NW6 3ER
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GOLDHURST TERRACE

195

116

SHED

002

001

KEY

002

EXISTING TREE

Trees are coloured on plan to correspond to
the Retention Categories specified in:
BS5837:20 12 Trees in relation to design, demolition and construction - Recommendations as follows:

Category A - GREEN
Category B - BLUE
Category C - GREY
Category U - RED

002

ROOT PROTECTION AREA
as defined in *BS5837:2012 Trees in relation to design, demolition and construction - Recommendations*

Client: MR AND MRS C. CAULDWELL	Drawing Title: TREE SURVEY PLAN		**Skerratt** arboricultural advice
Job Title: 195 GOLDHURST TERRACE LONDON NW6 3ER	Date: 15.06.16	Scale: 1:200 (A3)	158 MALDEN ROAD, LONDON NW5 4BT +44 (0)7768 398776
	Drawing Number: 472.01.00	Drawn by: RS	

001

002

KEY

ROOT PROTECTION AREA
as defined in *BS5837:2012*
Trees in relation to design,
demolition and construction
- Recommendations

002

FOOTPRINT OF PROPOSED
STRUCTURE

1

Client: MR AND MRS C. CAULDWELL	Drawing Title: TREE CONSTRAINTS PLAN		Skerratt **arboricultural advice**
Job Title: 195 GOLDHURST TERRACE LONDON NW6 3ER	Date: 15.06.16	Scale: 1:100 (A3)	158 MALDEN ROAD, LONDON NW5 4BT +44 (0)7768 398776
	Drawing Number: 472.02.00	Drawn by: RS	