

ARBORICULTURAL REPORT

2a PRINCE ARTHUR ROAD. HAMPSTEAD. LONDON

Report produced by: Mike Rangeley
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The Old Wood yard
Forest Road
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Report Produced For: Mr. D. Rose
2 Prince Arthur Road
Hampstead
London

Site Plan Supplied: Yes

**Statistical information
to BS 5837 Standards:** Yes

Inspection Date: March 2009

Brief: I have been instructed by Richard Webb-Architects; to supply an arboricultural report carried out to BS 5837 2005 Standards, prior to submitting a proposal to construct a new house within the rear garden of number 2 Prince Arthur Road, Hampstead. London.

OBJECTIVES OF REPORT:

- To accurately identify and locate all trees within the curtilage of the property and within the influencing distance of any proposed development.
- To assess the health and condition of the trees.
- To assess the public amenity value of the trees.
- To assess whether the trees concerned are suitable for retention.

LIMITATIONS:



- The report is of a preliminary nature the inspection to prepare the report was carried out from ground level.
- Changes caused as a result of unusual weather.
- This report is prepared by an arboriculturalist and contains information specific to trees, other references are observations only and cannot be qualified without the involvement of other professionals specific to the area of investigation, e.g. structural surveys.
- No Soil tests were carried out, neither have any drains been tested
- Further changes will occur relating to the trees and further inspections should be carried out at regular intervals as the trees grow.

LEGAL:

It has been established that the property lies within a conservation area; therefore, should any tree works be required it would be necessary to notify the Council (Section 211 Notice), prior to carrying out any remedial tree works or tree removals.

During early 2008, Salcey Arborcare & Forestry submitted a Section 211 Notice to Camden Council, notifying them of Mr. Rose's intention to remove several trees from the rear garden and in return received Camden Council's reply, stating that they did not object to the removals. (PDF file enclosed)

To date, these works have not yet been carried out. The trees concerned can be identified and located on the enclosed plan as follows:-

H3: 1 X Leyland Cypress from that Group

T13: 1 X Tulip Tree

T12: 1 X Rowan

T11: 1 X Willow

T10: 1 X Horse Chestnut

H1: 5 X Leyland Cypress

Public amenity value:

The garden slopes downward from front to back and the soil levels are made up on the eastern boundary. The northern side the rear garden is enclosed by the rear of buildings situated on the High street, and a high wall, whilst, the western end of the property is also enclosed by a high wall and can only be minimally overlooked by the buildings beyond and the eastern boundary.

Therefore, it is considered that the garden has more of a private rather than a public amenity value.

Discussions:

Number 2 Prince Arthur Road, is presently occupied by Mr. D. Rose, who is now considering constructing a new house within the rear garden of the property. It is understood that the existing driveway will be retained and that there will be pedestrian access only to the proposed development.

There is an existing secure driveway, accessed from Prince Arthur Road which gives access to the rear garden

The site is also screened by mature trees, which provide additional security and privacy from other properties.

Arboricultural Constraints Advice

Further to undertaking a Tree Survey at the above location, please find the enclosed:

Tree Survey Schedule.

Tree Survey/ Tree Constraints Plan.

Root Protection Area Schedule.

TREES:-

Tree number T1; is an early mature Sycamore located at the front of the property, it is in fair condition and health and will not be affected by the proposed development.

Hedge number H1; consists of 5 Leyland Cypress which, run parallel to the drive and it is proposed to remove these trees to facilitate the access to the development. **N.B. Permission already granted to remove these trees by Camden Council.**

Tree number T2; is also an early mature Sycamore, which is in poor condition and it is intended to remove the tree to a facilitate access and the development.

Tree number T3; is a small Apple tree in fair condition and it is intended the remove the tree to facilitate the development.

Tree number T4; is a young Yew tree, which is in good health and condition, which will have to be removed to facilitate access for construction materials.

Tree numbers T5, T6 & T7; are a mature Lime trees in fair health and condition, which have previously had their crowns reduced. The trees will not affect the development and it is intended to retain them.

Tree number T8; is a mature Cherry tree, which is in fair condition and health, it has also been crown reduced in the past and will not affect the development; therefore, this tree should be retained.

Hedge number H2; consists of several Leyland Cypress, which are planted in close proximity to the western boundary wall, they are in good health and condition but it is advised to remove them as their root protection zones will conflict with the proposed development.

Tree number T9; is young Ash tree, which is in fair health and condition but the tree will need to be removed to facilitate the development.

Tree number T10; is an early mature Horse Chestnut, which is in a relatively poor condition and will have to be removed to facilitate the development. **N.B. Permission already granted to remove these trees by Camden Council.**

Tree number T11; is a mature Willow in a relatively poor condition, this tree will also have to be removed to facilitate the development. **N.B. Permission already granted to remove these trees by Camden Council.**

Tree number T12; is a young Sorbus, in fair condition, which will conflict with the development and should be removed. **N.B. Permission already granted to remove these trees by Camden Council.**

Tree number T13; is a young Tulip tree in fair condition, which will conflict with the development and therefore should be removed. **N.B. Permission already granted to remove these trees by Camden Council.**

Hedge number H3; consists of 3 Leyland Cypress, which are in good condition which should be retained. **N.B. Permission already granted to remove one of these trees by Camden Council.**

Tree number T14; is an early mature Pear tree in fair condition, which should be retained.

Tree number T15; is a young Weeping Elm in fair condition, which should be retained.

Tree number T16; is an early mature Willow in fair health and condition, which conflicts with materials access for the development and therefore, should be removed.

The following information is based on guidance contained within British Standard 5837:2005 "Trees in relation to

construction – Recommendations” and on- site Observations and an assessment of the tree constraints relating to the above site.

- ‘A’ grade trees

These trees are considered to be of high quality and value: in such a condition as to make a substantial contribution (40 years or more is recommended). There are no trees within this classification.

- ‘B’ grade trees

These trees are considered to be of moderate quality and value: capable of making a significant contribution for in excess of 20 years.

- ‘C’ grade trees

Trees of low quality and value, which might remain for a minimum of 10 years or young trees with stems of less than 150mm in diameter.

- ‘R’ grade trees

‘R’ grade trees are trees that are in such a condition that any value might be lost within 10 years or should be removed for reasons of sound arboricultural management. Therefore, in accordance with the recommendations within BS 5837:2005 paragraph 4.3.4 *“they should not be a consideration in the planning process”*.

Tree Constraints Assessment

An assessment of the root protection area (RPA) as per table 2 of BS5837:2005 for each tree and groups of trees surveyed has been compiled. This document is enclosed for your use to guide the design process. The Magenta circles on the Tree Constraints Plan (TCP) represent the minimum root protection areas that will need to be fenced off.

The following is a summary of the tree constraints considerations as per BS5837:2005. The Root Protection Area considerations are listed ‘1-6’ which have been aided in the compilation of the Tree Constraints Plan. These constraints should also be given consideration throughout the design stage.

Below Ground Constraints

1. The likely tolerance of the tree to root disturbance or damage, based on the factors such as species, age and condition and the presence of other trees.
2. The morphology and disposition of the roots, when known to be influenced by past or existing site conditions.
3. The soil type and structure.
4. Topography and drainage.

Where any significant part of a tree's crown overhangs the provisional position of tree protection barriers, these parts may sustain damage during the construction period. In such cases, it may be necessary to increase the extent of tree protection barriers to contain, and thereby protect, the spread of the crown. Protection may also be achieved by access facilitation pruning. The need for such measures, including the precise extent of pruning, should be assessed by an arboriculturalist.

The Above Ground Constraints

5. The proposed development will not be affected by the ultimate height and spread of the trees to be retained on the site and therefore there will be no unreasonable obstruction of sunlight.
6. The site is planted with trees and plans for future planting should be accommodated by any landscape proposals within the scheme.

Summary of existing tree constraints with regard to the site

On undertaking an assessment of the positioning of the proposed development it is considered that by following the recommendations as set out within BS 5837:2005 with regards to tree protection methods etc, it is considered that the construction process would not have a detrimental impact on the health of the adjacent trees and the relationship between the crowns of the trees which it is proposed to retain is considered to be acceptable.

Conclusions

To aid in guiding the design process the following is a list of additional considerations that also should be considered.

- Effects that development may have on amenity value of trees on and near the site.
- Allowance potentially for appropriate tree surgery works that acceptably mitigate adverse effects caused by trees.
- Infrastructure requirements e.g. Visibility splays, services. Lighting, CCTV.
- The end use of the space.
- Whether tree loss the development can be environmentally enhanced by new tree planting.
- Particular care regarding retention of large old trees.
- Large trees and apprehension of residents or road users in windy conditions.

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Protective fencing: Before any materials or machinery are brought onto the site and before any demolition, development or stripping of soil commences, all trees to be retained on site, should be protected by barriers and or ground protection as recommended in Clause 7 of BS 5837:2005. Copy of which is reproduced below.

BS 5837: 2005

7 Arboricultural tree protection plan (TPP)

7.2 In order to avoid disturbance to the physical protection forming the construction exclusion zone once it is installed, it is essential to consider, make allowance for and plan all construction operations which will be undertaken in the vicinity of trees, in particular:

- a) site construction access;
- b) the intensity and nature of the construction activity;
- c) contractors' car parking;
- d) phasing of construction works;
- e) the space needed for all foundation excavations and construction works;
- f) the availability of special construction techniques (see Clause 11);
- g) the location and space needed for all service runs including foul and surface water drains, land drains, soak-aways, gas, oil, water, electricity, telephone, television or other communication cables;
- h) all changes in ground level, including the location of retaining walls, steps and making adequate allowance for foundations of such walls and back fillings;
- i) space for cranes, plant, scaffolding and access during works;
- j) space for site huts, temporary latrines (including their drainage) and other temporary structures;
- k) the type and extent of landscape works which will be needed within the protected areas, and the effects these will have on the root system (for guidance see 11.9 for hard landscape and Clause 12 for soft landscape);
- 1) space for storing (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete.
- m) the effects of slope on the movement of potentially harmful liquid spillages towards or into protected areas (see 9.4.2).

BS 5837:2005

8 Pre development tree work 8.1 General

Once a final layout for the development area has been approved, an arboriculturist should review the relationship of the development to the trees and prepare a schedule of tree works listing all the trees that require work by number, accompanied by a plan showing where each tree is located. The schedule should include all the trees to be removed to clear the main development area and those remaining that require remedial works. Remedial tree works should be based on what is required to establish acceptable levels

of risk and management in the context of the proposed land use. The schedule of works should be accompanied by a detailed specification describing each work operation (see BS 3998).

NOTE Tree work is a specialist task that requires competent operatives, adequately insured. Guidance on the selection of an appropriate contractor can be obtained from the Arboricultural Association, which has a Directory of Approved Contractors (see Annex B for contact details).

8.2 Working within the RPA

8.2.1 Care should be taken to ensure during tree removal or remedial work that damage to the retained

Trees and/or disturbance to the RPA is avoided. Appropriate precautions should include dismantling techniques to reduce the risk of accidental damage and ground protection where excessive pedestrian movements or use of plant and machinery may lead to compaction.

8.2.2 Debris from tree work might be removed from site, chipped and left on site, or left on site in an unprocessed form as habitat depending on the site circumstances. Debris should not be burnt where it could damage the crowns of retained trees. Stumps within RPAs should not be dug or pulled out but should be ground out, if removal is required, to avoid adverse impact on retained trees. Consideration should be given to leaving standing stumps and debris as habitat for wildlife if the circumstances allow (see BS 3998¹).

9 The construction exclusion zone: barriers and ground protection 9.1

General

9.1.1 All trees which are being retained on site should be protected by barriers and or ground protection, as recommended in Clause 7. Vertical barriers should be erected and ground protection installed before any materials or machinery are brought onto the site and before any demolition, development or stripping of soil commences. Areas of new or retained structure planting should be similarly protected, based on the extent of the soft landscaping as shown on the approved drawings. Once erected, barriers and ground protection should be regarded as sacrosanct, and should not be removed or altered without prior recommendation by an arboriculturist and approval of the local planning authority.

9.1.2 In the case of particularly vulnerable trees or trees sited close to the construction access, the owner or developer should make arrangements for an arboriculturist to supervise necessary works and the erection of protection before the handover of land to the contractor.

9.1.3 Pre development tree work may be undertaken before the installation of tree protection, where required, with the agreement of the local planning authority (see Clause 8).

9.2 Barriers

9.2.1 Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). On all sites, special attention should be paid to ensuring that barriers remain rigid and complete.

9.2.2 In most cases, barriers should consist of a scaffold framework in accordance with Figure 2 comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3 m. Onto this, weldmesh panels should be securely fixed with wire or scaffold clamps. Weldmesh panels on rubber or concrete feet are not resistant to impact and should not be used.

NOTE The above is preferred because it is readily available, resistant to impact, can be re-used and enables inspection of the protected area.

9.2.3 It may be appropriate on some sites to use temporary site office buildings as components of the tree protection barriers.

TREE ROOT PROTECTION AREA SCHEDULE

Client: Mr. Rose

Site: 2 Prince Arthur Road. Hampstead. London

Date: March 2009

Notes:

1. This is an assessment of the Root Protection Area (RPA) required, based on the individual tree data collected and Table 2 of BS5837:2005.
2. At this juncture this document is for your sole guidance and ongoing discussions purposes only and is not intended for general circulation, as it assumes that all but the "R" category trees will be retained, which may not be the case.

Tree No.	Species	Category	Single/ Multi-stemmed (S or MS)	Stem diameter (mm)	Initial linear Root Protection Distance (Radius m)	Root Protection Area m ²
T1	Acer	C	S	360	4.3	58.08m ²
H1	5 X Cupressocyparis leylandii	R	S	Av. 100	1.2	4.52m ²
T2	Acer	R	S	340	4	50.27m ²
T3	Malus	R	S	200	2.4	18.09m ²
T4	Taxus	R	S	350	4.2	55.42m ²
T5	Tilia	B	S	550	6.6	136.86m ²
T6	Tilia	B	S	300	3.6	40.72m ²
T7	Tilia	B	S	500	6	113.11m ²
T8	Prunus	B	M/s	460	5.52	95.73m ²
H2	Cupressocyparis leylandii	R	S	120	1.44	6.51m ²
T9	Fraxinus	R	S	300	3.6	40.72m ²

Tree No.	Species	Category	Single/ Multi-stemmed (S or MS)	Stem diameter (mm)	Initial linear Root Protection Distance (Radius m)	Root Protection Area
T10	Aesculus	R	S	370	4.44	61.94m ²
T11	Salix	R	S	480	5.76	104.24m ²
T12	Sorbus	R	S	170	2.04	13.07m ²
T13	Liriodendron	R	S	300	3.6	40.72m ²
H3	3 X Cupressocyparis leylandii	C	S	110	1.32	5.47m ²
T14	Pyrus	C	S	360	4.3	58.08m ²
T15	Ulmus	C	S	140	1.68	8.86m ²
T16	Salix	R	S	370	4.44	61.94m ²

TREE SURVEY NOTES

A Tree Survey should not be confused with a tree inspection or Arboricultural Implication Assessment, Which are totally separate exercises.

This tree survey has been undertaken within the recommendations of British Standards 5837: 2005 and current good arboricultural practice.

- ❖ Each tree has been allocated a number for ease of identification.
- ❖ Due to variations of existing ground levels, through the site, accurate height dimensions have been measured with the aid of a Suunto PM5/1520 Optical Clinometer.
- ❖ Trunk/stem diameters are measured in mm at 1.5 metres above ground level, or immediately above the root flare for multi-stemmed trees.
- ❖ Estimated branch spread is taken in metres from the centre of the trunk, at four cardinal points of the compass, to achieve an accurate representation of the crown shape.
- ❖ An assessment of a tree's age classification is made in terms of its maturity within the site's landscape and recorded thus:

Y	=	young trees
MA	=	middle aged trees
M	=	mature
OM	=	over mature
V	=	veteran

- ❖ An assessment of a tree's physiological condition is made as: good, fair, poor, dead.
- ❖ Data on the structural condition of the tree should be entered, e.g. collapsing, leaning, and the presence of any decay or physical defect should be noted.
- ❖ An assessment of a tree's future life expectancy is made as :< 10, 10-20, 20-40 or >40 years.

Categorisation of tree

The category for each tree is assessed using the recommendations of BS5837:2005. The assessment has not considered any site specific development proposals, but will have considered any changes on or off site, which may have an effect on the conditions surrounding the surveyed trees. The trees have been classified into one of the following categories (and one or more sub-categories) this will not however increase the value of the tree and are indicated the associated drawings by colours as indicated.

Category R				Identification colour on plan
Trees in such a condition that they would be lost within 10 years or should be removed for reasons of sound arboricultural management				DARK RED
Category A	1 – Mainly arboricultural values	2 – Mainly landscape values	3 – Mainly cultural values	Identification colour on plan
Trees of high quality and value: in such a condition as to make a substantial contribution (40 years or more is recommended)	Trees that are a particularly good example of their species, rare or unusual, essential components of groups or of formal or semi-formal features	Trees, groups or woodlands providing definite screening of views in and out of the site, or softening effect to the locality, or those of particular visual importance.	Trees, groups or woodlands of significant conservation historical or other value (i.e. veteran or wood pasture)	Light Green

Category B				
Trees of moderate quality and value, capable of making a significant contribution for in excess of 20 years.	Trees, which might be included in the A category, but are downgraded due to impaired conditions/ remedial defects.	Trees in numbers, that collectively form a distinct landscape feature but are not individually an essential component of a formal or semi-formal feature. These are likely to be trees situated mainly within a site with little visual impact on the surrounding locality.	Trees with clearly identifiable conservation or other cultural benefits.	Mid Blue
Category C				
Trees of low quality and value, which might remain for a minimum of 10 years or young trees with stems of less than 150mm in diameter.	Trees not qualifying in higher categories.	Trees in groups or woodlands without having significant landscape value or offering low or temporary screening value.	Trees with very limited conservation or other cultural value.	Grey

Clients are advised that Tree Surveys are a basic data collection exercise and record of tree condition at the time of the survey. It will identify any visual signs of ill-health or major defects, advising a further detailed investigation where appropriate. This will most often take the form of a request for either *“full ground level inspection”* or *“climbing inspection required”*. A tree survey does not include a comprehensive schedule or specification of remedial tree works, but may contain a guide to the work, which might be under taken by a prudent tree owner, purely for reasons of health and safety.

SITE: 2a Prince Arthur Road. Hampstead.

DATE of SURVEY: 4th March 2009

ARBORICULTURALIST: Mike Rangeley

WEATHER:

Tree Ref. No.	Species	Height in metres	Stem Diameter in mm	Branch Spread	Height of crown Clearance	Age Class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution Years	Category Grading	Root protection area in metres
T1	Acer	6	360	3	4	Early mature	Poor/fair	Fair Crown reduced previously	No action	5	C	4.3 m radius 58.08m ²
H1	Leyland Cypress Hedge	Av. 11	Av. 100	Av. 2	1	Young	Fair	Fair	Remove to facilitate development	10	R	1.2m radius 4.52m ²
T2	Acer	10	340	4	4	Early mature	Poor	Poor/fair Crown reduced previously	Remove to facilitate development	5	R	4m radius 50.27m ²
T3	Malus	4	200	2	2.5	Early mature	Fair	Fair Crown reduced previously	Remove to facilitate development	10	R	2.4m radius 18.09m ²
T4	Taxus	6	350	2.5	2	Young	Good	Good	Remove to facilitate development	30	R	4.2m radius 55.42m ²
T5	Tilia	15	550	6	4	Mature	Fair	Poor Crown reduced previously	No action	20	B	6.6m radius 136.86m ²
T6	Tilia	12	300	6	4	Mature	Fair	Poor Crown reduced previously	No action	20	B	3.6m radius 40.72m ²
T7	Tilia	12	500	6	4	Mature	Poor/fair	Poor Crown reduced previously	No action	20	B	6m radius 113.11m ²
T8	Prunus	10	Av. 460	Av.6	3	Mature	Fair	Fair Crown reduced previously	No action	15	B	5.52m radius 95.73m ²

Tree Ref. No.	Species	Height in metres	Stem Diameter In mm	Branch Spread	Height of crown Clearance	Age Class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Estimated Remaining Contribution Years	Category Grading & Colour Code	Root protection area in metres
H2	Leyland Cypress	10	< 100	Av.2	1	Young	Good	Good	Remove to facilitate development	10	R	1.44m radius 6.51m²
T9	Fraxinus	10	300	4	3	Young	Fair	Fair Crown reduced previously	Remove to facilitate development	20	R	3.6m radius 40.72m²
T10	Aesculus	8	370	4	3	Early mature	Poor	Poor	Remove to facilitate development	20	R	4.44m radius 61.94m²
T11	Salix	10	480	7	3	Mature	Poor/fair	Poor/fair	Remove to facilitate development	10	R	5.76m radius 104.24m²
T12	Sorbus	6	170	3	3	Young	Fair	Fair	Remove to facilitate development	10	R	2.04m radius 13.07m²
T13	Liriodendron	9	300	5	3	Young	Fair	Fair	Remove to facilitate development	10	R	3.6m radius 40.72m²
H3	X Cupressus leylandii	8	Av. 110	2	1	Young	Fair	Good	No action	20	C	1.32m radius 5.47m²
T14	Pyrus communis	6	360	5	3	Early mature	Fair	Fair	No action	20	C	4.3 m radius 58.08m²
T15	Ulmus	3	140	2	2.5	Young	Fair	Fair	No action	20	C	1.68m radius 8.86m²
T16	Salix	8	370	5	3	Early mature	Fair	Fair	Remove to facilitate development	10	R	4.44m radius 61.94m²

Retention Categories: -

Category A: Those of High Quality & Value

(Light Green)

Category B: Those of Moderate Quality & Value

(Mid Blue)

Category C: Those of Low Quality & Value

(Grey)

Category R: Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management. (Dark Red)