



# Broad Oak Tree Consultants Limited

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## REPORT ON TREE INSPECTIONS

AT

**13 AND 13A  
WEST HAMPSTEAD MEWS  
LONDON**

By

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B.Sc.(Hons) M.I.C.For. M.Arbor.A.**

**J47.35  
7<sup>th</sup> August 2013**

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2. TREE CONSTRAINTS PLAN, DRAWING NO. 47.35/01

## **1. INTRODUCTION**

- 1.1 Broad Oak Tree Consultants Ltd. received instructions from De Metz Forbes Knight Architects to undertake an inspection of trees located at Nos. 13 and 13A West Hampstead Mews, London. The purpose of the inspection was to produce a base inventory of the tree stock, advise on any safety issues, calculate BS root protection areas and produce a Tree Constraints Plan that can be used for advising potential redevelopment layouts.
- 1.2 The trees were inspected remotely on Tuesday 6<sup>th</sup> August 2013 by Tim Laddiman, BSc.(Hons) M.I.C.For. M.Arbor.A., Chartered Arboriculturist and Principal Consultant of Broad Oak Tree Consultants Ltd.

## **2. GENERAL SITE DESCRIPTION**

- 2.1 No. 13 and 13A form an 'L' shaped complex of buildings at the west end of a terrace of properties on the south side of West Hampstead Mews. The majority of the properties appear to be commercial premises with various uses with No. 13 currently operating as a car repair workshop and No. 13A appearing to be a residential property. No. 13 has a small two storey section and is mostly single storey, with flat roofs and a plaque indicating construction in 1886. No. 13A is a two storey structure with an electricity sub-station immediately to its west and an access road to its north. To the west and south of the buildings are residential rear gardens of large properties. Within these rear gardens are various trees of a diverse size and age range to which no access was gained.

## **3. SCOPE OF TREE SURVEY**

- 3.1 All trees were assessed from West Hampstead Mews or from the roof of No. 13 and tree locations have been measured as best as practical using a hand held laser ranger finder with all tree dimensions and conditions having to be estimated.

## **4. DATA COLLECTION**

- 4.1 Each tree was inspected to the requirements of Section 4.4 of BS 5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations".
- 4.2 The tree survey followed the numbered sequence from 1 to 4 inclusive. Tree numbers, together with BS recommended colour coding of condition, have been added to the Tree Constraints Plan, our drawing no. J47.35/01 in Appendix 2. This drawing also includes crown spreads based on four compass points and BS calculated root protection areas.

4.3 The following categories of information were obtained for each tree. A separate detailed tree survey sheet is attached in Appendix 1, together with comprehensive explanatory sheets which cover the details of the categories listed below.

- (1) Tree reference number
- (2) Species
- (3) Height in metres
- (4) Stem count
- (5) Stem diameter or equivalent in millimetres
- (6) Branch spread in metres
- (7) Age class
- (8) Height of crown clearance in metres
- (9) Physiological condition
- (10) Estimated remaining contribution in years
- (11) Category grading
- (12) Structural condition
- (13) Preliminary management recommendations

4.4 Within the assessment of physiological condition and remaining contribution, a visual inspection of each tree was undertaken to assess the crown and stem for any weak structures, deadwood, hollows, forks or other defects that might affect its stability and safety. The base of each tree was also visually inspected, together with tapping and probing, to search for signs of root lifting, bark death or decay. Where stems were heavily ivy clad, no full assessment of structural integrity could be undertaken. Clearance of the ivy would be necessary for confirmation of tree condition.

## **5. RISK ASSESSMENT - INFORMATIVES**

5.1 Although the potential risk to someone passing beneath a tree when the tree or part of it fails is relatively remote, the risk is present. This increases significantly in areas of consistent and regular usage on a year round basis, such as footpaths, gardens and roadways. Where static structures exist, the risks become constant and an assessment is made as to whether complete or partial failure of a tree could potentially cause physical damage to such structures.

5.2 Within the scope of any tree survey it is a fact that not all risks of stem or crown failure can be covered, particularly in relation to freak occurrences of weather when even healthy trees can suffer stem snap or windblow. There is also a well known propensity for mature trees to occasionally shed limbs for no discernible reason, even on calm days. Although relatively rare, limbs may occasionally be shed and this should be acknowledged as a risk that cannot entirely be mitigated.

## 6. RESULTS OF TREE INSPECTIONS

- 6.1 A total four individual trees were inspected remotely ranging from a young cherry of less than ten years of age through to a large mature Horse chestnut of potentially upto a hundred years of age. All trees are located in what appear to be residential rear gardens with trees nos. 1 to 3 relatively remote from the property of interest.
- 6.2 The largest tree and most relevant to the survey is tree no. 4, the mature Horse chestnut, in the rear garden of the property to the south. This tree has a large open crown structure but appears to have been reduced all over possibly earlier in 2013 with only recent regrowth occurring from cut points and a long branch. The crown slightly overhangs the rear of No. 13 and it was noted that the tree was suffering a heavy infection of leaf miner which causes discoloration and early leaf fall. The lower stem of the tree could not be visually assessed due to access difficulties to ascertain its structural integrity and this would have to be confirmed by the owners of the tree.
- 6.3 In general the trees inspected appeared in reasonable health from remote observations with only tree no. 4 of any significant crown mass and proximity.
- 6.4 Of the trees inspected, the following is a breakdown of the various numbers of trees and groups in each BS category.

BS Category	Tree No.	Sub Total
A	-	-
B	4	1
C	1, 2, 3	3
U	-	-
	<b>TOTAL</b>	<b>4</b>

### 6.5 *Interpretation of table*

- Category A** Retention most desirable. Of high quality and value and in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).
- Category B** Retention desirable. Of moderate quality and value and in such a condition as to make a significant contribution (a minimum of 20 years is suggested).
- Category C** Could be retained – of low quality and value. Poor crown form, heavily asymmetric, large numbers of similar species/size. Currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested) or young trees with a stem diameter below 150mm.
- Category U** Trees for removal. Dead/dying/dangerous trees due to structural defects, fungal decay or root plate uplift. 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.

## 7. BS CALCULATED ROOT PROTECTION AREAS (RPAs)

- 7.1 To provide an indication of the critical areas of root plate necessary for tree survival and longevity, BS 5837:2012 requires the calculation of RPAs for trees in the BS Categories A, B and C. Calculations are not made for Category U trees which will require removal on safety grounds within 10 years.
- 7.2 The table below has been calculated using the measured stem diameters and the formula as described in Section 4.6 in BS 5837:2012. These are represented as basic circles on the Tree Constraints Plan. Where buildings, walls, services and hard surfacing exist within the indicated RPAs it is likely that the architecture of root systems will have been affected. Foundations to walls and buildings can completely obstruct root development, depending on their depth and the nature of the underlying soils. In the absence of detailed site investigations the indicated RPA circles should be used for guidance only within any redevelopment proposals.

Tree no.	Species	BS Category	Stem diameter or calculated equivalent (mm.)	BS calc. radial equiv. root protection area (m.)	BS calc. total RPA (m <sup>2</sup> )
1	Cherry	C	c.160	c.1.9	c.11
2	Pear	C	c.300	c.3.6	c.41
3	Lime	C	c.250	c.3	c.28
4	Horse Chestnut	B	c.900	c.10.8	c.366

## 8. SUMMARY

- 8.1 A total four individual trees were inspected remotely ranging from a young cherry of less than ten years of age through to a large mature Horse chestnut of potentially upto a hundred years of age which has been heavily crown reduced this year. All of the trees are located in adjoining rear gardens and the condition of none of the trees could be confirmed by actual inspection as all assessments of condition and dimensions were estimated from available vantage points.
- 8.2 The key tree of any relevance is tree no. 4, a Horse chestnut, located to the south of the building No. 13 which has an extensive crown mass covering the entire width of the building and to height over. The tree appears in reasonable condition although it is suffering from a heavy infestation of leaf miner which causes early leaf loss.
- 8.3 The potential influence above and below ground elements of trees could have on any redevelopment proposals are indicated on the Tree Constraints Plan.

Tim Laddiman  
Chartered Arboriculturist  
Broad Oak Tree Consultants Ltd.

# APPENDIX 1

## TREE SURVEY EXPLANATORY SHEET

<b>Height</b>	in metres (estimated where ground uneven or access restricted).
<b>Stem count</b>	number of stems
<b>Stem diameter</b>	in mm. at 1.5m. above ground level.
<b>Branch spread</b>	radial spread in metres at four main compass points (estimated where no access).
<b>Age class</b>	Young - Y Middle aged - MA Mature - M Over mature - OM Veteran - V
<b>Height of crown clearance</b>	in metres. Normally range of heights of outer branches above ground level, e.g. 2-4m.
<b>Physiological condition</b>	Good, Fair, Poor, Dead, Variable
<b>Estimated remaining contribution</b>	in years e.g. less than 10, 10-20, 20-40, 40+
<b>Category grading</b>	see attached sheet
<b>Structural condition</b>	comment on presence of defects, decay, crown form, past management, deadwood, other features worthy of note. N.B. If trees are ivy clad, no full structural assessment will have been possible.
<b>Preliminary management recommendations</b>	requirements of further investigations, works necessary to alleviate potential hazards based on current setting and levels of access. NB: Works that may be necessary in relation to development are not included here



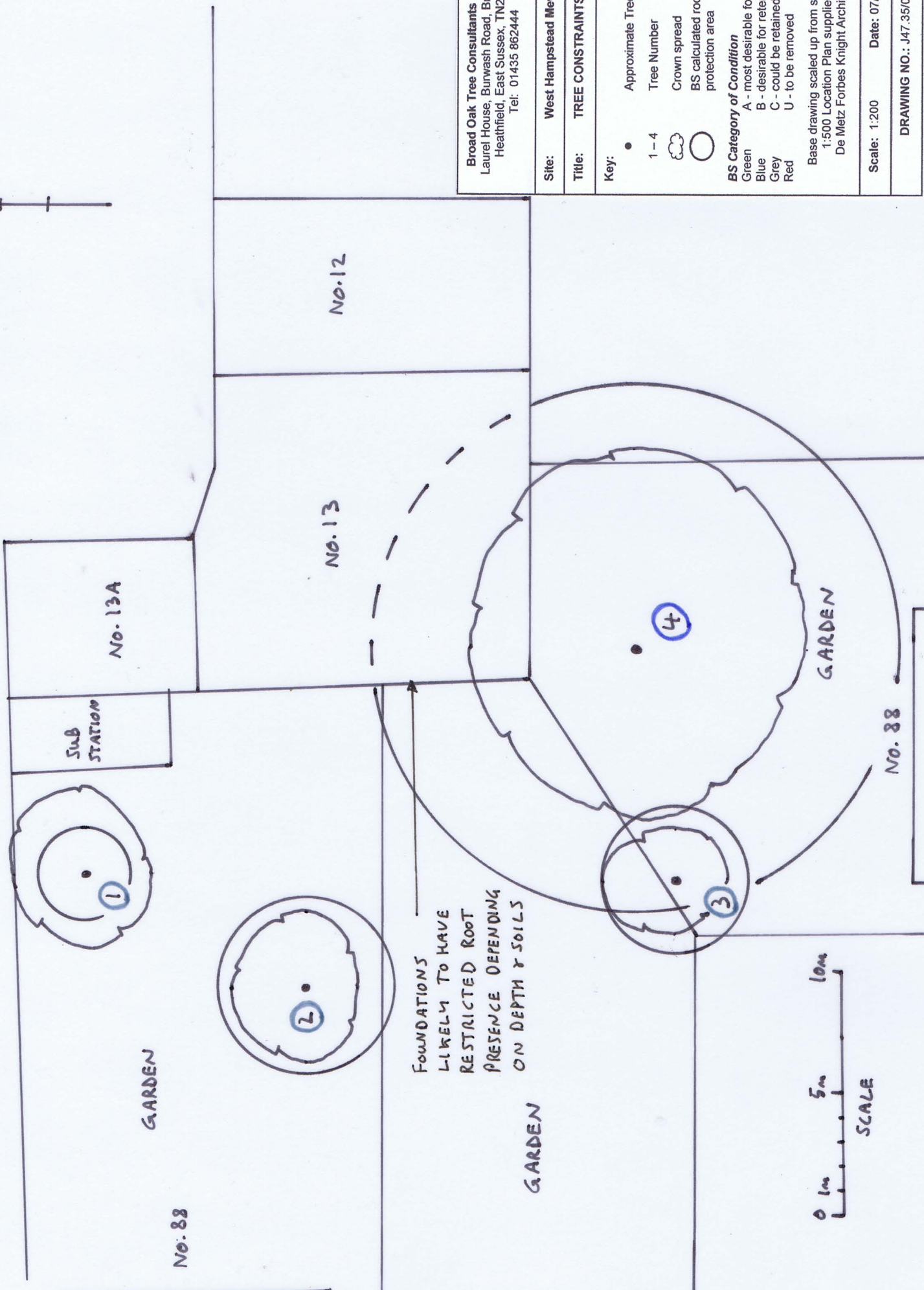
## CASCADE CHART FOR TREE QUALITY ASSESSMENT



TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
<b>Category U</b> 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	<ul style="list-style-type: none"> <li>• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>• Trees that are dead or are showing signs of significant, immediate and irreversible overall decline.</li> <li>• Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality</li> </ul> NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree.)			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria - Subcategories			Identification on plan
	1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation	
<b>Category A</b> Those of high quality and value: in such a condition as to be able to make a substantial construction (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
<b>Category B</b> Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodland, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
<b>Category C</b> Those of low quality and value: currently in adequate condition to remain until new planting could be established ( a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm.	Trees not qualifying in higher categories	Trees present in groups or woodland, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit.	Trees with very limited conservation or other cultural benefits	GREY
NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation				

Tree ref. no.	Species	Height (m.)	Stem Count	Stem diameter or equivalent (mm.)	Branch spread (m.)				Age class	Ht. of crown clearance (m.)	Physiological condition	Estimated remaining contribution (years)	Category grading		Structural condition	Preliminary management recommendations
					N	E	S	W								
1	Cherry	7	Multi	c160	3	3.5	c2.5	3	Y	1+	Good	40+	C	2	Located in adjoining garden. Multi stemmed near ground level.	
2	Pear	c10	1	c300	c3	3	2	3	M	2+	Fair	20-40	C	2	Located in adjoining garden therefore no basal inspection.	
3	Lime	c10	3	c250	3	2	2	2	MA	1+	Fair	20-40	C	2	Crowded. Multi stemmed. Located in adjoining garden therefore no basal inspection.	
4	Horse Chestnut	c13	1	c900	c7	c8	c7	c7	M	4+	Fair	20-40	B	2	Located in adjoining garden therefore no basal inspection. Crown raised in past and reduced all over in past year. Heavy leaf minor infestation. Multi stemmed from under 4m.	

# APPENDIX 2

WEST HAMPSTEAD MEWS



Broad Oak Tree Consultants Limited Laurel House, Burwash Road, Broad Oak, Heathfield, East Sussex, TN21 8SS Tel: 01435 862444	
Site:	West Hampstead Mews
Title:	TREE CONSTRAINTS PLAN
Key:	• Approximate Tree Location 1-4 Tree Number  Crown spread  BS calculated root protection area
<b>BS Category of Condition</b> Green A - most desirable for retention Blue B - desirable for retention Grey C - could be retained Red U - to be removed	
Base drawing scaled up from supplied 1:500 Location Plan supplied by De Melz Forbes Knight Architects.	
Scale:	1:200
Date:	07/08/2013
DRAWING NO.: J47.35/01	

FOUNDATIONS  
 LIKELY TO HAVE  
 RESTRICTED ROOT  
 PRESENCE DEPENDING  
 ON DEPTH & SOILS

