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REPORT ON INSPECTION OF TREES

AT

SOAS
UNIVERSITY OF LONDON
THORNHAUGH STREET
RUSSELL SQUARE
LONDON
WC1H 0XG

By

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Our Ref.: J51.24
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APPENDICES:

1. INTRODUCTION

1.1 Broad Oak Tree Consultants Ltd. received instructions from Robert West, to undertake an inspection of trees located at SOAS, University of London, Thornhaugh Street, Russell Square, London, WC1H 0XG. The purpose of the inspection was to produce a base inventory of the tree stock, calculate BS root protection areas and produce a Tree Constraints Plan that can be used for advising potential development layouts.

1.2 The trees were inspected on 12th September 2015 by Tim Laddiman, BSc.(Hons) M.I.C.For. M.Arbor.A., Chartered Arboriculturist and Principal Consultant of Broad Oak Tree Consultants Ltd.

1.3 At the time of reporting it is not known whether any trees on the site are covered by statutory protection such as Tree Preservation Orders or Conservation Area regulations. Before any tree works recommended in this report are undertaken, checks should be made with the local Council. Checks with the local Council have not been undertaken unless specifically requested as such enquiries can result in Tree Preservation Orders being placed where none previously existed.

2. GENERAL SITE DESCRIPTION

2.1 The area of interest to this report comprised the end of a cul-de-sac adjacent to one of the entrances to SOAS, University of London, located off the turning head to the south-west of the road. Adjoining is a large multi storey building with a curved frontage forming part of the University campus, with a further more modern multi storey building to the north-west. To the east of the structures is an open area of lawn and shrub beds with paving leading to the north-west and further University related buildings to the north and north-east.

2.2 Within the paving to the entrance courtyard to the University are several young Ash trees, only one of which was included in the survey, with a maturing London Plane located in the shrub border in front of the curved frontage building and a much larger Oriental Plane located in the lawned area between the two buildings.

3. SCOPE OF TREE SURVEY

3.1 The trees to be inspected were taken to be those included in the area indicated on a supplied aerial photograph, a copy of which is included in Appendix 1 for reference purposes.

3.2 All trees and shrubs of 75mm diameter or more at 1.5m above ground level were included in the survey.

4. DATA COLLECTION

4.1 All trees were inspected from the ground and no climbing or specialist investigations were undertaken. 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 3 inclusive. Tree numbers, together with BS recommended colour coding of condition, have been added to the Tree Constraints Plan, our drawing no. J51.24/01 in Appendix 3. 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 2, 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 of three individual trees were inspected ranging from a young Ash tree planted within the last ten years through to a large Oriental Plane of at least 150 years of age. The young Ash, T1, is one of a pair framing the entrance gates to the University courtyard which has been planted in the last ten years. This tree is of poor form due to the London Plane, T2, adjoining with a curved upper stem and limited future potential. The London Plane, T2, has been crown reduced in the last year and appears to be in good health with a reasonably well defined crown given its proximity to the building.

6.2 Tree T3, the Oriental Plane, is a very large mature tree, twin stemmed at four metres with a slight lean to the north-east, which predates the building to the north-west and may have been planted as part of the original landscaping to the older building with the curved frontage. This tree has also been crown reduced in the past year and raised in the past to form a well defined feature tree.

6.3 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	3	1
B	2	1
C	1	1
U	-	-
	TOTAL	**3**

6.4 ***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

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 below table 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 development proposals.

Tree no.	Species	BS Category	Stem diameter or calculated equivalent (mm.)	BS calc. radial equiv. root protection area (m.)	BS calc. total RPA (m²)
1	Narrow leaved Ash	C2	160	1.9	11
2	London Plane	B2	730	8.8	243
3	Oriental Plane	A2	1220	14.6	670

8. SUMMARY

8.1 A total of three trees were inspected representing a wide range of ages and dimensions with a young Ash planted in the last ten years as part of a landscaping scheme to the courtyard entrance area to the University, an early mature London Plane planted in a shrub border in the past 80 years and recently crown reduced and a much larger older Oriental Plane in an area of lawn between two buildings forming a large feature tree which has also being maintained recently.

8.2 The Tree Constraints Plan produced provides guidance on the potential influence above and below ground elements of trees could have on any development proposals. Account should also be taken of future growth potential and shading by the trees.

9. INFORMATIVES

9.1 Instructing a firm to perform tree work or felling should only be carried out once it has been established that the tree is not covered by a Tree Preservation Order or stands within a Conservation Area. In either case it would be necessary to obtain local authority consent if the tree is covered. Heavy fines are imposed for transgression of TPOs.

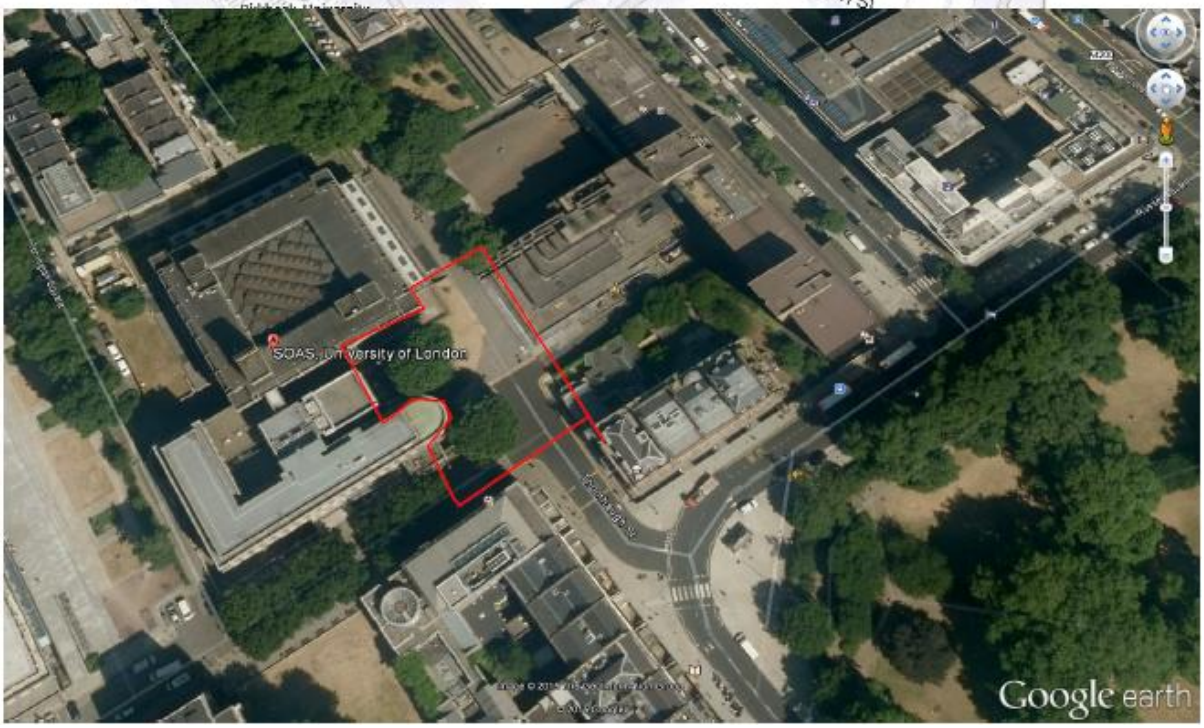
9.2 Any tree work should be carried out by a competent tree surgeon to comply with BS3998:2010 “Tree Work - Recommendations”.

9.3 All trees recommended for felling or tree surgery works should be checked for the presence of bats or nesting birds prior to works commencing. Disturbance to bats or nesting birds could contravene the Wildlife and Countryside Act 1981 and result in prosecution.

Tim Laddiman
Chartered Arboriculturist
Broad Oak Tree Consultants Ltd.

APPENDIX 1


Woburn Square
London Leadership Centre
Dept of Geography
Royal National Hotel
University College London
Bedford Way
Slade Research Centre
The Warburg Institute
The Warburg Institute
Torrington Square
UCL Institute of Education (IOE)
Bedford Way
Clore Management Centre
Philips Building
SOAS, University of London
Torrington Square
Centre for Development, Environment and Policy
Reference Collection
Thornhaugh St


SOAS, University of London
Google earth

APPENDIX 2

TREE SURVEY EXPLANATORY SHEET

Height	in metres (estimated where ground uneven or access restricted).
Stem count	number of stems
Stem diameter	in mm. at 1.5m. above ground level.
Branch spread	radial spread in metres at four main compass points (estimated where no access).
Age class	Young - Y Middle aged - MA Mature - M Over mature - OM Veteran - V
Height of crown clearance	in metres. Normally range of heights of outer branches above ground level, e.g. 2-4m.
Physiological condition	Good, Fair, Poor, Dead, Variable
Estimated remaining contribution	in years e.g. less than 10, 10-20, 20-40, 40+
Category grading	see attached sheet
Structural condition	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.
Preliminary management recommendations	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
Category U 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	• 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) • Trees that are dead or are showing signs of significant, immediate and irreversible overall decline. • 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 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	
Category A 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
Category 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
Category C 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	Narrow leaved Ash	8	1	160	2.5	3.5	3	1.5	Y	2.3+	Poor	20-40	C2	Planted in last ten years. Stem bowed to E. from 3.5m. Located in paving.	
2	London Plane	20	1	730	<6	7	4.5	3	M	4+	Good	40+	B2	Slight lean to NE. Located in planted border. Crown raised in past. Crown reduced in last year.	
3	Oriental Plane	32	1	1220	5	5.5	4.5	3.5	M	7+	Good	40+	A2	Crown reduced in past year. Crown raised in past. Twin stemmed at 4m. Slight lean to NE.	

APPENDIX 3

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SOAS
UNIVERSITY OF LONDON
THORNAUGH STREET
RUSSELL SQUARE
LONDON WC1H 0XG

TREE CONSTRAINTS PLAN

T1 – T3 Tree numbers

BS Category of Condition

- T3 BS Condition A
- T2 BS Condition B
- T1 BS Condition C
- 0 BS Condition U

Paced crown spread

BS Calculated root protection areas

The root protection areas have been calculated using the measured stem diameters and the formula as described in Section 4.6 in BS5837:2012. 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.

T3
Oriental Plane
A2

T2 Bushes/Shrubs
London Plane
B2

T1
Narrow leaved Ash
C2

DRAWING NO. J51.24/01
Scale: 1:100 at A1
Added to by: NL
15/09/2015