Arboricultural Report

Assessment of trees in relation to development for planning purposes

156-164 Gray's Inn Road & Panther House London WC1X 8ED

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1 SUMMARY REPORT

- 1.1 The proposal is for the part replacement and part renovation of the buildings comprising 156-164 Gray's Inn Road and Panther House. Full details of the proposals are contained within the submitted design and access statement.
- 1.2 Trees relevant to these proposals have been assessed in accordance with best practice guidance and planning policy at national and local level.
- 1.3 Relevant impacts and potential issues relating to trees have been considered within this report and factual information is contained in the appendices.
- 1.4 My conclusions are that the proposed development is acceptable in both arboricultural terms and in relation to planning policy in so far as it relates to trees.

2 INTRODUCTION

Instructions

- 2.1 My name is Tim Moya; I am an arboricultural consultant dealing with trees in relation to all forms of human activity including the built environment. I am a Fellow of the Arboricultural Association, a Chartered Arboriculturist, a Chartered Environmentalist, a Registered Consultant of the Institute of Chartered Foresters and I have a postgraduate qualification in arboriculture and community forest management from Middlesex University.
- 2.2 This arboricultural report has been commissioned to provide information to assist all parties involved in the planning process to make balanced judgements with regard to arboricultural features in relation to the proposed development.

Scope and limitations

- 2.3 The survey is not an assessment of health and safety of trees and no recommendations for works have been provided, however trees identified as imminently dangerous will have been highlighted in the tree schedule at Appendix B, where appropriate.
- 2.4 The contents of this report are copyright of Tim Moya Associates (TMA) and may not be distributed or copied without TMA's permission. Tim Moya Associates standard Limitations of Service apply to this report and all associated work relating to this site.

Methodology and guidance

- 2.5 I have referred to *British Standard 5837: Trees in relation to design, demolition and construction (2012)* which provides a methodology for the assessment of trees and other significant vegetation on development sites.
- 2.6 BS 5837 (2012) is intended to assist decision making with regard to existing and proposed trees and sets out the principles and procedures to be applied to achieve a harmonious relationship between existing and new trees and structures that can be sustained for the long term.
- 2.7 The Building Research Establishment (BRE) has also produced several documents between 1998 and 2011 in relation to trees and site layout planning, sunlight, daylight, shading and urban cooling. These documents consider trees and their relationship with buildings and garden usage, including the benefits they bring in

terms of welcome shade or urban cooling, advising a balanced approach to these issues in design.

3 OBSERVATIONS AND CONTEXT

Site visit

3.1 The site was visited by my colleague Charles McCorkell on 11th January 2016 to survey on and off-site trees and vegetation which may be of significance to the proposed development.

Soil conditions

- 3.2 The British Geological Survey on-line information suggests that the soils on the site are predominantly mixed with the dominant mineral constituent being sand and gravel. Soils of this type tend to be free-draining.
- 3.3 Light free-draining soils can support a range of tree species but are liable to dry quickly in drought conditions leading to physiological stress in some tee species. Improving the water-retaining properties of the soil by adding organic matter and mulching the soil surface around trees can help to alleviate stress. Free draining soils can also become acidic and this may limit the range of suitable tree species if measures are not taken to reduce acidity.
- 3.4 For further specific details of local soil conditions reference should be made to the BGS website http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

Policy context

- 3.5 Planning policy at national level is set out in the government's National Planning Policy Framework (NPPF).
- 3.6 The NPPF sets out overarching planning policy and at its core is a presumption in favour of sustainable development. Sustainable development is defined in the NPPF as having economic, social and environmental strands that are interdependent and in these areas planning should meet the needs of the present without compromising the ability of future generations to meet their own needs.
- 3.7 The NPPF states that planning should be "not only about scrutiny, but instead be a creative exercise in finding ways to enhance and improve the places in which people live their lives." And should "always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings;" Also

- that planning should contribute to conserving and enhancing the natural environment and reducing pollution."
- 3.8 The NPPF identifies thirteen aspects contributing to the delivery of sustainable development, including:
 - establishing a strong sense of place;
 - · responding to local character and history; and
 - providing developments that are visually attractive as a result of good architecture and appropriate landscaping
- 3.9 Paragraph 61 of the NPPF states "planning policies and decisions should address the connections between people and places and the integration of new development into the natural, built and historic environment."

Regional Planning Policy

- 3.1 Regional planning policy consists of the London Plan 2015 and associated policy documents including the Climate Change Adaptation Strategy (*Managing Risks and Increasing Resilience October 2011*).
- 3.2 The London Plan 2015 defines "green infrastructure" as "an overarching term for a number of discreet elements (parks, street trees, green roofs etc.) that go to make up a functional network of green spaces and green features."
- 3.3 In relation to climate change adaptation the London Plan calls for the use of trees and other shading to "increase green areas in the envelope of the building, including its roof and environs"
- 3.4 The London Plan sets a target of a 5% increase in trees in parks, gardens and green spaces by 2025.
- 3.5 Policy 7.21 of the London Plan 2011 calls for trees and woodlands to be protected, maintained and enhanced. The policy requires that existing trees of value should be retained and that any loss as a result of development should be replaced in sustainable locations. The policy suggests that, where appropriate, large canopied species should be planted (rather than smaller ornamental species).

Local Plan and Policies

3.6 The London Borough of Camden Unitary Development Plan contains saved policies relating to trees and landscaping.

3.7 The London Borough of Camden's policies are contained within the Core Strategy and Development Policy Document which were adopted on 8 November 2010. Relevant policies to the consideration of trees and development include:

<u>Development Policy 22: Promoting Sustainable Design and Construction</u>

DP22.15 (Designing to adapt to climate change) suggests measures such as planting trees and vegetation will be expected to assist with this issue.

Development Policy 24: Securing High Quality Design

This policy will expect developments to consider "Existing natural features such as topography and trees", and "the provision of appropriate hard and soft landscaping including boundary treatment"

Development Policy 25: Conserving Camden's Heritage

DP25.5 (Loss of Trees in Gardens in Conservation Areas) states that:

"Development will not be permitted which causes loss of trees / and or garden space where this is important to the character and appearance of a conservation area"

4 TECHNICAL INFORMATION

Tree Data

4.1 The location of trees and groups of trees are shown on the tree survey drawing at Appendix A, this plan illustrates the location of trees and the extent of the spread of their crowns. Dimensions, comments and information for each tree are given in the tree schedule at Appendix B.

Life Stage Analysis

- 4.2 Unlike age in numerical terms (years), this description is used to describe the physical form of a tree in relation to its typical life expectancy and varies between species.
- 4.3 Of the 15 survey entries, 4 are mature, 6 are early mature, 4 are semi-mature and 1 is young.

BS5837 (2012) category breakdown

- 4.4 The trees surveyed were assessed as being of varying quality with the majority being low quality or unremarkable trees. Further details of the trees surveyed can be found in the schedule at Appendix B and the tree survey plan at Appendix A.
- 4.5 Of the 215 survey entries 4 were assessed as being of moderate quality (B category), 10 were assessed as being of low quality (C category) and 1 was assessed as being or poor quality (U category).
- 4.6 Further details can be found in the tree schedule at Appendix B.

5 ANALYSIS OF THE PROPOSAL IN RESPECT OF TREES

Arboricultural Impacts

5.1 The following arboricultural impacts have been considered in relation to the proposed development:

Impact	Analysis								
Loss of trees	It will not be necessary to remove any trees in order to facilitate the proposed development. The proposals include the planting of one new feature tree in a location open to the public.								
Pruning to facilitate development	It will not be necessary to prune trees in order to construct the proposed development. Trees T1 and T2 have been recently reduced and there is sufficient clearance for the erection of scaffolding and for demolition and construction operations.								
Tree works to facilitate access	It is proposed that the existing access to the site will be retained. The use of this access will not require the removal or pruning of any existing trees.								
Construction of work gantry	It is proposed that a scaffold frame over the footpath on the Gray's Inn Road frontage will be constructed in order to accommodate a gantry for site welfare facilities and offices. We have proposed that the gantry be constructed to work around T1 so that there will not be a requirement to prune this tree. Details of proposed tree protection for trees T1 and T2 can be found at Appendix A.								
Future growth of retained trees	Two mature London plane trees growing in the Gray's Inn Road footpath are managed by Camden council. These trees are regularly pruned to avoid conflicts with nearby buildings and had been recently reduced at the time of our site visit. It is expected that this management will continue and that there will be no issues related to the future growth of these trees.								
	Other off-site trees to the rear of the proposed development are not significant in relation to the proposals as the lower floors of these building are to be retained.								
Daylight and sunlight	Shading by trees is not considered a significant issue in relation to these proposals. The juxtaposition of trees and the existing and proposed buildings is characteristic of the relationship found throughout the local area.								
	The environmental benefits of growing trees close to buildings should not be underestimated. The Royal Commission on Environmental Pollution has stated that "The cooling, shading, humidifying and filtering effects of green space are likely to become more important as climate change leads to summers becoming increasingly warm and dry with more periods of higher temperatures.[The Urban Environment – Royal Commission on Environmental Pollution. March 2007 –								

	paragraph 4.60]							
Demolition and Construction operations	The demolition of the existing building/s and hard surfaces / light structures on the site will have the potential to impact upon retained trees. However, these impacts relate only to demolition operations rather than the location of the works since the proposals do not exte beyond the footprint of the existing buildings.							
	The proposals retain the facade of the original buildings on Gray's Inn Road and their foundations.							
	Tree protection measured outlined at Appendix A will be adequate to ensure that the two plane trees (T1 and T2) can be successfully retained.							
Installation of drainage	We do not currently have details of the condition of existing drainage runs or any information which suggests that there will be a requirement to install new drains. However, if new drainage runs are required, they should be located outside the RPAs of retained trees. If it is found to be necessary to locate new drainage runs within the RPAs of retained trees it is recommended that these works are carried out under arboricultural supervision. Methods of work should follow the recommendations in the NJUG guidance. BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances. See http://www.njug.org.uk/							
Installation of services	New service runs will, where possible, be located outside the RPAs of retained trees. However, if it is necessary to locate services runs within the RPAs, BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances. See http://www.njug.org.uk/							

6 DISCUSSION AND CONCLUSIONS

General Change

- 6.1 The proposed development has minimal impacts upon trees. No trees are proposed for removal and all trees can be adequately protected where necessary to ensure that they are not damaged by demolition and construction operations.
- 6.2 The proposals include the planting of one new feature tree which will be of public amenity significance. In tree and landscape terms, the proposals are therefore a positive enhancement.

How do the changes relate to planning policy?

Policy Ref	Compliance							
NPPF	The proposals do not impact upon ancient woodland or veteran trees. The proposals are sustainable in landscape terms and therefore meet the criteria for sustainability in this respect.							
	The proposals have been designed to provide a good standard of amenity for occupants and measures are proposed to protect natural features.							
Regional policy (The London Plan)	The London Plan emphasises the importance of trees, green infrastructure and climate change resilience. By retaining existing trees of good quality, planting a new tree and enhancing the local landscape, the proposals have responded to the London Plan.							
Local policy	The retention of all existing trees and the planting of a new feature tree in a location accessible to the public complies with policies 22, 24 and 25 of Camden's Development Plan.							

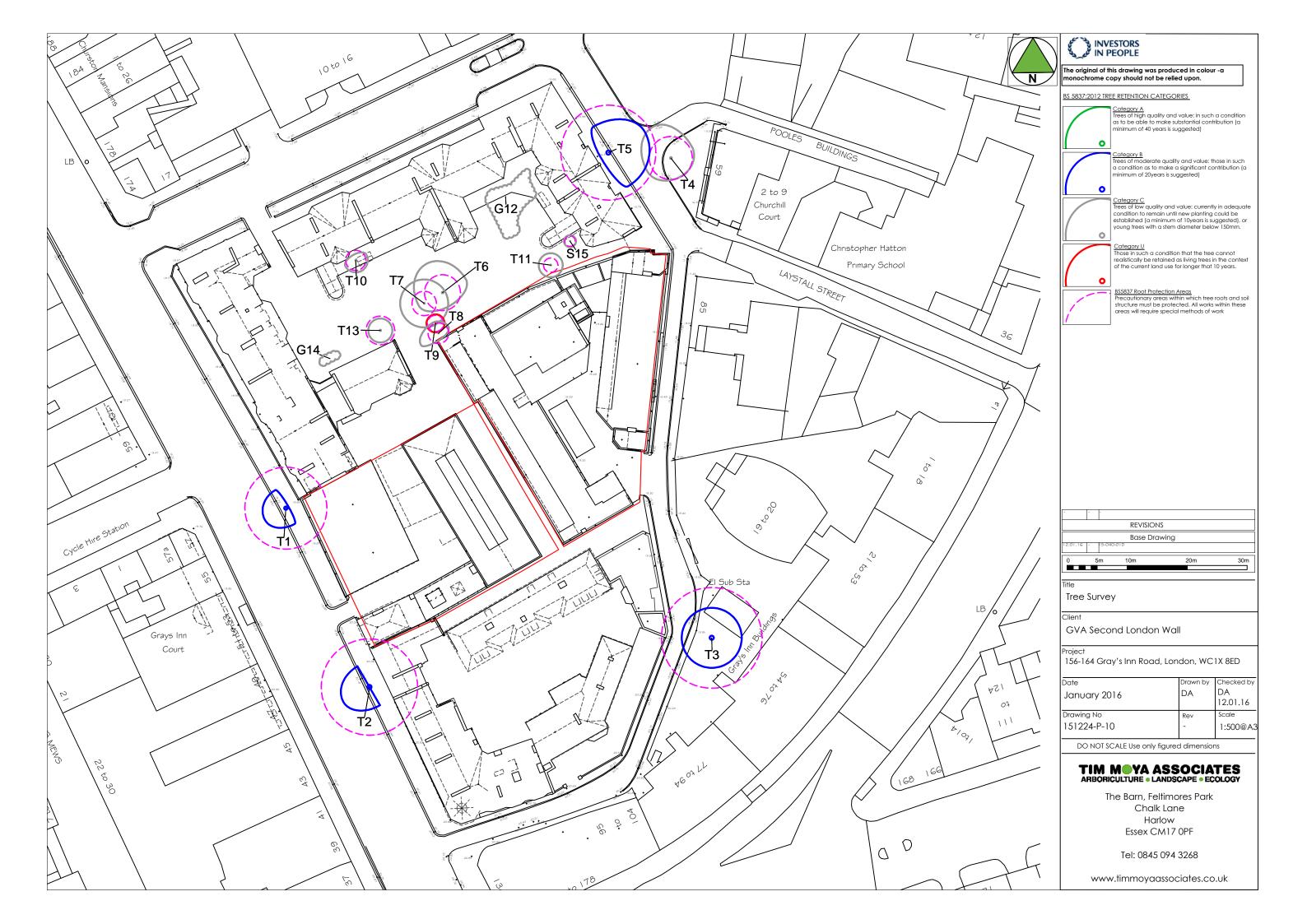
Conclusions

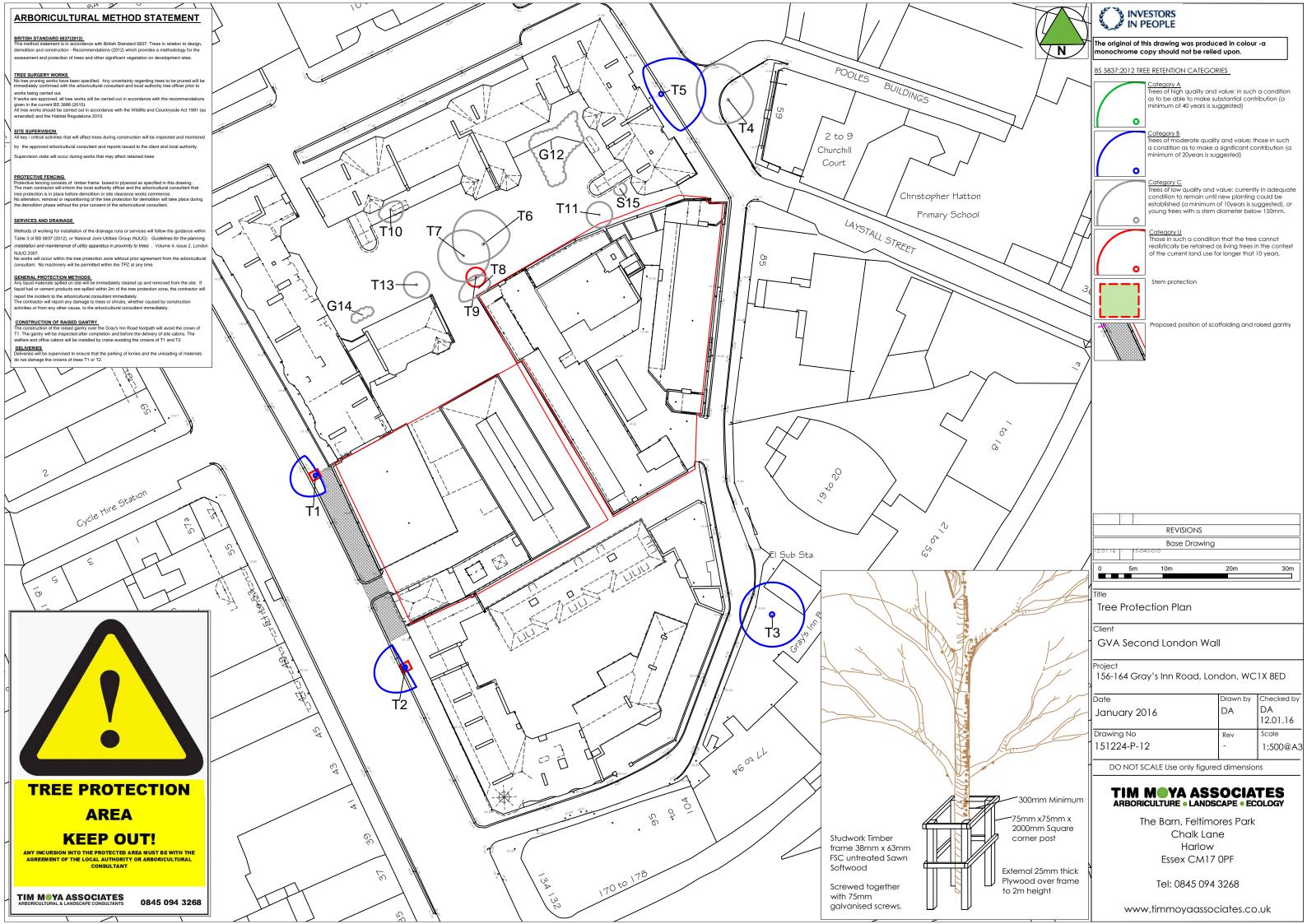
- 6.3 The design of the proposal has properly considered the tree constraints.
- 6.4 The proposal complies with planning policies referenced within the report
- 6.5 All retained trees can be adequately protected by following the recommendations in the method statement at Appendix A and controlled by suitably worded planning conditions.

APPENDIX A - PLANS

Tree Survey 151224-P-10

Tree protection and arboricultural method statement 151224-P-12





APPENDIX B - SCHEDULES

Tree Schedule 151224-PD-10



156-164 Gray's Inn Road, London, WC1X 8ED

Tree/Group Number	S Species	Height (m) Stem diameter (cm) No. of Stems	CROWN SPREAD (m) N NE E SE S SW W NW	Crown Cleanrance (m)	Life stage	Condition Notes	Most Recent Survey	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T1	1 Platanus x hispanica London plane	9.0 57 1	0.5 3.0 4.0 3.5		Mature	Structural condition Good. Physiological condition Fair. Access to inspect base - Restricted / obscured. Pollard - Recently cut. Root environment - Restricted. Location approximate as no topographical survey provided. 2.7m from edge of stem to building. Rubbish dumped at base, inspection restricted.	11/01 /2016	147.0	6.8	20-40	B2
Tree T2	1 Platanus x hispanica London plane	12.0 67 1	0.0 3.5 5.0 4.0	5.0	Mature	Structural condition Fair. Physiological condition Fair. Bark wound - Major. Pollard - Recently cut. Root environment - Restricted. 2.7m from edge of stem to building Large bark damage on road side of stem between 2 and 3m. Hypholoma fasciculare (Sulphur Turf) saprophytic fungal fruiting bodies located at the highest point of wound (Approximately 3m) on road side of stem. Location approximate as no topographical survey provided.	11/01 /2016	203.1	8.0	20-40	B2
Tree T3	1 Platanus x hispanica London plane	13.0 70 1	5.0 5.0 5.0 5.0	3.0	Mature	Structural condition Good. Physiological condition Good. Access to inspect base - Not possible. Crown reduction - Recent. Root environment - Restricted. Stem diameter estimated at 1.5m. Access to property not possible. Location approximate as no topographical survey provided.	11/01 /2016	221.7	8.4	20-40	B1/B2
Tree T4	1 <i>Prunus sp.</i> Cherry/Plum species	7.5 30 1	4.0 3.5 4.5 6.0	2.5	Early Mature	Structural condition Fair. Physiological condition Fair. Decay / structural defect in crown limb / limbs - Localised. Girdling roots - Major. Physiological / cambial damage - Unconfirmed. Root environment - Restricted. Exposed roots. Structural impact - Footpath / highway / drive disturbance. Location approximate as no topographical survey provided.	11/01 /2016	40.7	3.6	10-20	C2
Tree T5	1 Platanus x hispanica London plane	18.0 66 1	7.0 6.5 1.5 5.0	3.5	Mature	Structural condition Good. Physiological condition Good. Pollard - Recently cut. Pruning wounds - Decayed. Im separation between tree crown and building. Location approximate as no topographical survey provided.	11/01 /2016	197.1	7.9	20-40	B2
Tree T6	Robinia pseudoacacia Golden false acacia	15.0 25 1	4.5 2.5 4.5 5.5	5.0	Early Mature	Structural condition Fair. Physiological condition Good. Decay / structural defect - Principal stems. Longitudinal lesion on southern side of main stem at approximately 4m. Location approximate as no topographical survey provided.	11/01 /2016	28.3	3.0	10-20	C1
Tree	1 <i>Prunus sp.</i> Cherry/Plum species	6.0 17 1	4.0 4.0 4.0 4.0	2.5	Semi Mature	Structural condition Fair. Physiological condition Fair. Decay / structural defect - Base. Poor past pruning. Location approximate as no topographical survey provided.	11/01 /2016	13.1	2.0	10-20	C1

156-164 Gray's Inn Road, London, WC1X 8ED

Tree/Group Number	No. of Trees		Height (m)	Stem diameter (cm)	No. of Stems	N NE	CROWN	1	1 1	v NW	Crown Cleanrance (m)	Life stage	Condition Notes	Most Recent Survey	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T8	1 Laurus Bay	nobilis	7.0	8 AVE	2	2.0	1.	0	3.5	2.0	0.0	Early Mature	Structural condition Fair. Physiological condition Good. Location approximate as no topographical survey provided.	11/01 /2016	9.4	1.7	10-20	C1
Tree T9	1 unrecog	nized	5.0	8 AVE	2	1.5	1.5	1.5	1.:	5	2.0	Young	Structural condition Poor. Physiological condition Dead. Location approximate as no topographical survey provided.	11/01 /2016	5.8	1.4	0-10	U
Tree	1 Betula Birch	sp.	6.0	14	1	2.0	2.	0	2.0	1.0	2.0	Semi Mature	Structural condition Fair. Physiological condition Fair. Crown reduction - Historic. Tree has been historically topped Location approximate as no topographical survey provided.	11/01 /2016		1.7	10-20	C1
Tree T11		ecyparis lawsoniana 's cypress	7.0	10	1	2.0	2.	0	2.0	2.0	0.0	Semi Mature	Structural condition Good. Physiological condition Good. Leaning trunk - Minor. Location approximate as no topographical survey provided.	11/01 /2016	4.5	1.2	20-40	C1
Group G12	2 Cordyli. 1 other other	c canariensis ne sp. la aquifolium	5.0	10							0.0	Early Mature	Structural condition Fair. Physiological condition Fair. Garden area Other species - Dicksonia antarctica (Tree Fern) Dimension average of group.	11/01 /2016			20-40	C1
	1 Olea eu Olive 1 Pyracan																	
Tree	1 Phoenix	canariensis	4.0	20	1	2.0	2.	0	2.0	2.0	0.0	Early Mature	Structural condition Good. Physiological condition Good. Location approximate as no topographical survey provided.	11/01/2016	18.1	2.4	10-20	C1
Group G14	3 <i>other</i> other		2.5	10							0.0	Semi Mature	Structural condition Good. Physiological condition Good. Dimension average of group Species - Dicksonia antarctica (Tree Fern)	11/01 /2016			10-20	C1

156-164 Gray's Inn Road, London, WC1X 8ED

Tree/Group Number	Species	Height (m)	Stem diameter (cm)	No. of Stems	N	C NE	1	N SP		.D (n SW		NW	Crown Cleanrance (m)	Life stage	Condition Notes	Most Recent Survey	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
Shrub S15	1 other other	2.5	3 AVE	6	1.0		1.0		1.0		1.0		1.0	Early Mature	Structural condition Good. Physiological condition Good. Species - Fatsia japonica Location approximate as no topographical survey provided.	11/01 /2016	2.4	0.9	10-20	C1

Category and definition	Criteria (including subca	tegories where appropriate)		Identification on plan							
Trees unsuitable for retention (see note)											
Category U 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	including those that will become reason, the loss of companion she * Trees that are dead or are showing * Trees infected with pathogens of	 * 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 category U trees (e.g. 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 health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality 									
	see 4.5.7										
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation								
Trees to be considered for retention											
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Tree 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 arboricutural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	GREEN							
Category B Trees of moderate quality with an estimated remaining life expectancy of 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 value	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 value	GREY							

- Feasibility Tree Surveys
- British Standard 5837 Tree Surveys
- Tree Constraints Reports & Drawings
- Appeal Statements & Proofs
- Expert Witness
- Evidence at Hearings & Public Inquiries
- Method Statements to Satisfy Planning Conditions
- Design Solutions
- Landscape Plans
- Tender Documents & Drawings
- Supervision & Inspection of Works
- Contract & Project Management
- Health & Safety Surveys
- GPS Surveys
- Computerised Tree Population Surveys
- CAD Plans & Consultancy
- Subsidence Risk Assessments
- Mortgage & Insurance Reports
- TPO Review
- Local Government Officer Contracts
- Arboricultural & Ecological Reports for Planning
- Habitat Surveys (Extended Phase 1/ Walkover/ Botanical)
- Protected Species Surveys
- Ecological Mitigation & Licencing
- BREEAM & CFSH
- Ecological Management Plans
- Hedgerow Surveys
- Landscape Analysis



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