tree:fabrik

125 Shaftesbury Avenue

Arboricultural Development Report

SEPTEMBER 2016

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1.0 INTRODUCTION

1.1 This report is submitted on behalf of Almacantar Shaftesbury S.a.r.l. in support of a planning application for the refurbishment and extension of 125 Shaftesbury Avenue, London, WC2 8AF including; *Remodelling, refurbishment and extension of existing office and retail building (Class B1/A1/A3/Sui Generis), including terraces, a new public route, a relocated office entrance (Charing Cross Road), rooftop plant and flexible retail uses (Classes A1/A3), along with associated highway, landscaping and public realm improvements.*

2.0 PURPOSE OF REPORT

2.1 This report presents an analysis of the potential impact of the proposals on existing trees and outlines mitigation through physical protection and appropriate precautionary measures required in order to reduce any significant or detrimental impact on the health or amenity of retained trees in accordance with recommendations and guidance contained within British Standards 5837 (2012) '*Trees in relation to design, demolition and construction*' (BS5837), government guidance and current good practice.

2.2 The assessment and recommendations are informed by a tree survey dated January 2014 undertaken by *tree*:fabrik in accordance with BS 5837 (2012). This survey was updated by *tree*:fabrik in July 2016 to include significant changes within the tree stock and in particular cyclical pruning that has occurred within the interim period. The tree survey provided an informed approach to tree retention and protection as part of the feasibility and design process.

2.3 This enables a review by the Council in the context of other material considerations submitted in support of a planning application and the basis for issuing planning permission.

3.0 SITE DESCRIPTION

3.1 The site is located to the north of Cambridge Circus and fronts both Shaftesbury Avenue, and Charing Cross Road.

3.2 The site is bound to the north by Phoenix Street, to the east by Stacey Street with Shaftesbury Avenue and Charing Cross Road forming the southeast and west

boundaries respectively. The southern elevation of No. 125 is formed by adjacent buildings that front the junction (Cambridge Circus) of Shaftesbury Avenue and Charring Cross Road. To the north corner of the site, a terrace and steps form an open paved area within Stacey Street. An open courtyard to the west, off Charring Cross Road, forms Caxton Walk.

3.3 Within the local landscape, the surrounding area is urban with street trees within the adopted highway of Charing Cross Road, Shaftesbury Avenue, Stacey Street and New Compton Street. To the north of the site, are Phoenix Gardens and St Giles in the Fields Church which form verdant areas within the local urban setting. Tree species are primarily London Plane with Cherry, Ginkgo, Oak, Mountain Ash and Tulip trees located within nearby Phoenix Gardens and St Giles.

4.0 STATUTORY DESIGNATIONS

4.1 Trees located within the adopted highway are the responsibility of Transport for London, Camden Council and Westminster City Council.

4.2 As such, any tree works required would need to be carried out in agreement with the tree owner and form public works.

4.3 Attention is drawn to the responsibilities under the Wildlife & Countryside Act (1981) as amended by the Countryside and Rights of Way Act 2000. This may place additional constraints on trees above that considered within this report.

5.0 TREE STOCK

5.1 A copy of the limitations, methodology and tree survey schedule and reference plan forms Appendix 1. Root protection calculations form Appendix 2 and a photographic record of the general tree stock forms Appendix 3.

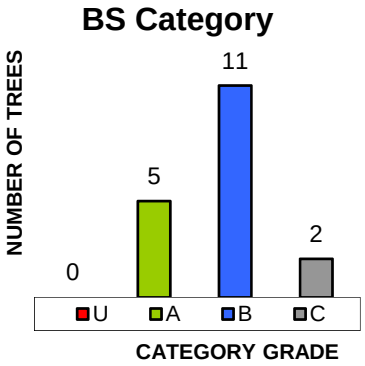
5.2 The assessment was carried out in accordance with the guidance and recommendations of British Standards 5837: (2012) and good arboricultural practice.

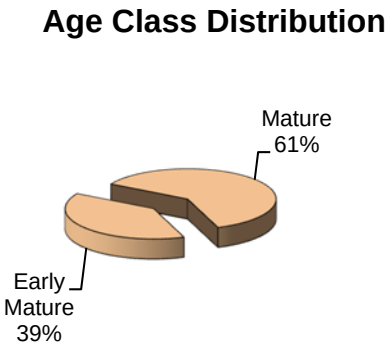
5.3 Trees identified within this assessment were visually inspected from ground level by a person qualified and experienced in arboriculture. The tree's common name and its dimensions are recorded within the tree survey schedule together with their age, physiological, structural condition and a category code.

5.4 No trees are located within the site.

5.5 Trees are located off-site within the adjacent footway and amenity area. These street trees have potential to influence the site and therefore are included within the survey assessment below.

5.6 A total of 18 individual trees were assessed within the survey schedule including 5 category 'A' trees, 11 category 'B' trees and 2 category 'C' trees in accordance with British Standards 5837 (2012) 'Trees in relation to design, demolition and construction'.





5.7 In general, the trees are typical of street tree species with London Plane forming the principal trees.

5.8 To the north of the site, six early mature London Planes are located within a block paved amenity space. The trees appear to be of a similar age class and it is therefore likely that they were planted at the same time as part of landscape improvement works or previous redevelopment. All trees are of fair health and display previous cyclical pruning to maintain their crown extents. Located within Stacey Street, the trees are visible from the surrounding road network with restricted views along Phoenix Street from Charing Cross Road. As such, the trees accrue public visual amenity.

5.9 Of these trees, T1 displays an asymmetrical crown due to group pressure with T5 forming a small crown. Whilst of amenity, these two trees have been assessed as 'C' category accordingly as they are subservient trees within the group. Both T1 and T2, located directly adjacent to the highway, also display vehicle damage to their trunks from high sided vehicles and therefore further damage may occur due to the adverse camber or changes in parking regimes.

5.10 Within the tree group, gullies and manhole covers are visible within the block paving and therefore infrastructure and utilities are likely to be present within the RPA's of these trees.

5.11 Similarly, block paving forming hard surfacing within the tree group displays radial distortion. This is typically characteristic of tree root action and it is likely that significant individual surface roots are present just below the block paving. In particular, linear distortion is prominent to the south of T4 and a large surface root extends to the south west of T6 where paving blocks have been removed.

5.12 To the south east and west of the building, London Planes are located within the footway adjacent to Charing Cross Road and Shaftesbury Avenue. These trees are mature and inclined to the highway due to the proximity and influence of the adjacent building. Located adjacent to a main thoroughfare, the trees accrue significant public visual amenity.

5.13 From visual observation, the tree's architectural form has matured in response to their urban environment and are inclined to the highway. The trees display an asymmetrical crown with limited major scaffold branches on the profile located adjacent to the building elevations. The trees appear to be regularly managed and as such reasonable clearance of between 1.5m to 2m to the building is maintained.

5.14 Due to the influence of the building, the inclined trunks over the highways have been subject to occasional vehicular damage with the majority displaying significant damage on their leeward side.

5.15 Given the proximity of the buildings to the street trees, the foundations are likely to have substantially influenced the existing tree roots with a bias to the footway and directly adjacent to the foundation profile. It is not therefore anticipated that tree roots would be present below the foundations at depth. However, tree roots maybe located directly adjacent to the foundations within the footway and it is recommended that precautionary measures be adopted to ensure adjacent roots are not damaged during future works. This may have an adverse impact on the health or stability of the trees.

5.16 For detailed assessment of each individual tree please refer to the tree survey schedule (Appendix 1).

6.0 ARBORICULTURAL IMPACT ASSESSMENT

6.1 No trees are located within the site.

6.2 The principal arboricultural features are located within the footway and amenity area to the north, east and west of the site. The street trees are located in close proximity to the existing structure and contribute to the visual amenity of the street scene.

6.3 The adjacent trees therefore form a material consideration within the context of the proposed works and have been considered throughout the design process with regard given to guidance and recommendations within BS 5837 (2012) 'Trees in relation to design, demolition and construction'. In particular, *Section 5 (2012) – Proposals: conception and design.*

6.4 No trees are identified for removal.

6.5 The proposal seeks to retain and remodel the existing basement to level 7. Whilst the façade will be removed and replaced which will require access to the building elevation, as previously discussed, the street trees are naturally inclined away from the buildings with no major scaffold branches in close proximity. Clearance between the existing façade and crown is also maintained through cyclical pruning. Similarly, retention of the basement will maintain the existing root environment of adjacent trees and therefore, subject to precautionary measures, the proposal and its practical construction would not have an adverse impact on the adjacent street trees.

6.6 To the north east of the site, the existing trees located within the amenity area are to be retained and incorporated within the wider street environment and enhancement of the public realm. It is anticipated that the proposed public realm is to be at grade with the existing levels and therefore would not have an adverse impact on their root environment.

6.7 Drainage and Utilities

6.7.1 With regards to drainage, services and utilities, given the sites existing use, incoming and out-going services can be accommodated without an adverse impact on the health or stability of off-site trees. New drainage, services and utilities will be directed from the RPA of retained trees. Where connection to an existing supply is required within the RPA of an off-site tree, all works will be carried out in accordance with National Joint Utility Guidelines Vol. 4 issue 2 Nov' 07 and under arboricultural supervision.

6.8 Tree Management and Pruning

6.8.1 Some selected minor tree pruning including tip reduction and crown lifting to minimise potential damage of lateral branches during demolition and construction phases will be required. However, these works have been considered in relation to the species and accord with BS3998 (2010) T*ree Work - Recommendations*. The proposed facilitative tree works would not therefore have an adverse impact on the trees health or visual amenity.

6.8.2 Subject to tree work being carried out in accordance with BS3998 'Tree work – Recommendations' (2010) by an experienced and qualified tree contractor the proposed tree works would not have an adverse impact on the trees health or visual amenity.

6.9 Tree Protection Strategy

6.9.1 Trees located within the adopted highway can be adequately protected in accordance with BS 5837 (2012).

6.9.2 Prior to commencement, the trees will be pruned to minimise damage to the trees crowns during site set-up and maintained during the length of the development period.

6.9.3 Following pruning, the street trees will be wholly excluded from the site for its duration to avoid physical damage to the tree trunks.

Examples of exclusion are illustrated below

6.9.4 During development tower crowns will be in operation. Where enabling works or construction is to occur within 2m of the crown extent of any retained tree, protection and precautionary measures must be observed. In addition to the site induction of personel, all vehicles will operate with a banksman to ensure the limit of travel is observed. Where a crane is in operation, the exclusion zone formed by the tree constraints will be programmed into the cranes onboard limiter. These precautionary

measures are to be adopted by the contractor and provision made within the Construction Management plan.

6.9.5 A suitable vehicle to deliver appropriate protection of the trees during future development would be through the inclusion of a detailed Arboricultural Method Statement in accordance with BS5837 (2012).

6.9.6 The primary purpose of the Arboricultural Method Statement is to aid the preservation of retained trees through setting out the appropriate working practices, construction techniques and tree protection measures that are to be adopted when development is undertaken in the proximity of trees. The contents of this Method Statement are based upon documents submitted in respect of the *Approved Plans*, detailed construction drawings and tree protection measures recommended in British Standards 5837 (2012) 'Trees in relation to design, demolition and construction', government guidance and current good practice.

6.9.7 In particular, provision must be made for, but not exclusively, the following;

- Identification of trees and protection measures with regards to site access and egress routes within the surrounding road network, waiting or parking areas, loading and unloading areas and site set-up.
- Schedule of Tree Works.
- Installation and specification for tree protection which excludes the tree from development and provision for minimising contamination of leaf area from the toxic effects of concrete etc.
- Precautionary measures to be adopted within close proximity to the RPA or crown spread of street trees. ie. cranes, rigs or booms
- Details of removal and replacement of existing façade from basement to level 7.
- Details of footway, hard surfacing, foundations or walls within the public realm.
- Details of service routes.

7.0 CONCLUSION

7.1 No trees are located within the site.

7.2 No trees are to be removed to facilitate the proposed development.

7.3 The layout respects the existing street trees within the surrounding road network and precautionary measures have been adopted within the design to minimise any adverse impact on the below and above ground constraints presented by trees.

7.4 In particular, the existing basement upto level 7 is to be retained in-situ to minimise root disturbance and maintain the existing below ground environment of the adjacent street trees. Together with the existing tree form, with off-set crowns and cyclical pruning regime, the removal and replacement of the façade would not have an adverse impact on the street trees.

7.5 Subject to implementation of adequate tree protection and precautionary measures it is considered that the existing street trees can be adequately protected throughout the development process in accordance with British Standards 5837 (2012).

7.6 In my opinion, the provision for adequate tree protection and precautionary measures could therefore be satisfactorily addressed through the imposition of appropriate conditions.

APPENDIX 1

Tree Survey Schedule

& Reference Plan

Limitations

Trees are living organisms whose health and condition can change rapidly. The validity of this report and conclusions or recommendations cease at the prescribed period of two years from the site inspection or if the site conditions change due to unspecified works or storm events that affect the subject tree(s) whichever is the sooner.

This tree survey assessment is a basic data collection exercise for the sole use of identifying site constraints in context of the planning process and a record of the trees condition at the time of assessment. This is not a vegetation assessment for NHBC guidance or a higher level inspection (full hazard or risk assessment) and no guarantee, either expressed or implied can therefore be given with regards to identification, safety, stability or internal condition.

All observations are confined to that which was visible from the site. Where dense ivy/ground vegetation hampered visual assessment of trees assessed its quality and condition was assessed from that which was visible from the point of inspection. This preliminary assessment may therefore be subject to amendment following additional detailed inspection.

Tree Assessment Methodology

The assessment was carried out in accordance with the recommendations of British Standards 5837: (2012) and good arboricultural practice.

Trees identified within this assessment were inspected from ground level by a person qualified and experienced in arboriculture using the Visual Tree Assessment Method (VTA). Visual assessment, in accordance with accepted arboricultural practice, was based on visual observation of vitality (leaf cover, extension growth), presence of deadwood and die back, fractured and detached limbs, structural form or external indications of stem and basal decay likely to affect the structural condition of the tree. No decay detection equipment either invasive or non-invasive was employed.

For the purpose of clarity, trees are identified by a reference number within the Tree Survey Schedule which corresponds with the tree no. recorded within the Tree Survey or Tree Protection Plan. The tree's common name and its dimensions are recorded within the tree survey schedule together with their age, physiological, structural condition and a category code in accordance with the guidelines set out in British Standard 5837: (2012) ''.

Where a tree's crown is heavily asymmetrical, the crown radius for each cardinal compass point is given. Together with the height, clearance between ground level and the crown, this provides a good guide to the size and outline form of the tree.

The estimated life expectancy in context of the species is provided as guidance only.

The quality and value of each tree is assessed, grading the tree to one of four categories. The purpose of the tree categorization method is to allow informed decisions to be made concerning which trees should be removed or retained should development occur.

Details of the preliminary root protection area (RPA) around each individual tree are provided within Appendix 2 and illustrated on the Tree Survey Reference Plan to assist in assessment of site layout and the likely impact of construction works proposed within the vicinity of trees to be retained.

Where the trees root morphology within the preliminary RPA may be influenced by existing site features, these areas of restrictive growth may be illustrated within the Tree Survey Reference Plan for higher grade trees ie category 'A' & 'B'. The preliminary root protection area may therefore require adjustment; this may change its shape but not reduce its area (m2) in accordance with BS 5837 (2012). It is recommended that *tree:*fabrik be consulted and additional detailed evaluation and guidance be considered within the emerging site layout.

Tree No.	Species	Ht (m)	Stem Dia (mm)	Branch spread (m)				Height of crown clr (m)	First Significant Branch	Age Class	Phys. Condition	Structural Condition	Remaining contribution (est. years)	Category grading
				N	E	S	W							
T1	London Plane	12	330	0	5	4	2.5	6	4SE	EM	N	Located within planting station with hoggin capping, asymmetrical crown architecture to SE due to suppression by T2.	20+	C1
T2	London Plane	15	490	2.5	5.5	5.5	1.8	5	4S	EM	N	Lamppost 1.5m to N, slight incline to E, significant trunk wound on E side 3m a.g.l. (vehicle).	40+	B1
T3	London Plane	15	490	3.5	5.5	4.5	0	6		EM	N	Twin-stemmed from 3m a.g.l., previously crown reduced.	20+	B1
T4	London Plane	15	360	1.5	3	2.5	3.6	5		EM	N	Twin-stemmed from 3m a.g.l., previously crown reduced, minor basal damage S side, significant radial disturbance of block paving to S to 5.5m typically characteristic of surface root action. Manhole 1m to SE, drain 3m to SW.	40+	B1
T5	London Plane	14	290	1	1	105	1.5	7		EM	N	Small crown due to group pressure, dog legged branch.	20+	C1
T6	London Plane	15	530	5	5.5	4	4.2	5	3S	EM	N	Major buttress root to W, significant radial disturbance of block paving to W to 6m typically characteristic of surface root action, crown beak at 2m a.g.l., previously crown reduced.	40+	B1
T7	London Plane	18	630	8	2	7	8.5	6		M	N	Street tree, planting station resin bound, inclined to W over road, asymmetrical crown form biased over highway due to building.	40+	A1
T8	London Plane	18	520	5	1.5	5.5	8	6	5W	M	N	Street tree, twin-stemmed from 5m a.g.l. inclined to W over road and extended lateral to Pheonix Street, asymmetrical crown form biased over highway due to building, possible cavity on E side, manhole 2m to S.	40+	B1
T9	London Plane	22	500	4	1.5	10	6	6	6S	M	N	Street tree, lamppost 2m to N, manhole 0.5m to N, paving disturbance to N & S, historic vehicle damage on W side with possible decay 3m a.g.l., inclined to W over road, asymmetrical crown form biased over highway due to building.	40+	A1

Tree No.	Species	Ht (m)	Stem Dia (mm)	Branch spread (m)				Height of crown clr (m)	First Significant Branch	Age Class	Phys. Condition	Structural Condition	Remaining contribution (est. years)	Category grading
				N	E	S	W							
T10	London Plane	23	790	11	4	6	7	7		M	N	Street tree, traffic posts to N & S, twin-stemmed from 3m a.g.l. heavily inclined to NW, manholes to N & W.	40+	A1
T11	London Plane	20	700	8	1	11	10	6		M	N	Street tree, extended and end loaded branch to SW, heavily inclined to W over road, asymmetrical crown form biased over highway due to building.	40+	B1
T12	London Plane	18	650	4.5	5	8	4.5	8		M	N	Prominent tree of visual amenity within paved area.	40+	A1
T13	London Plane	19	620	1	5	7	7	6		M	N	Street tree, asymmetrical crown form biased over highway due to building, x3 manholes 0.5m to W.	40+	A1
T14	London Plane	18	600	1	5	5	9	6		M	N	Street tree, inclined to SE over road, asymmetrical crown form biased over highway due to building.	40+	B1
T15	London Plane	18	710	2.5	5	12	6	6		M	N	Street tree, significant vehicle damage to trunk 3m a.g.l. E side, heavily asymmetrical crown form biased over highway due to building.	20+	B1
T16	London Plane	18	670	1.5	8.5	7	6	8		M	N	Street tree, occluded vehicle damage to trunk SE side, asymmetrical crown form biased over highway due to building.	20+	B1
T17	London Plane	18	510	2	5.5	7	7	8		M	N	Street tree, two arching spires to S. significant vehicle damage to E side, asymmetrical crown form biased over highway due to building.	20+	B1
T18	London Plane	17	490	3	7.5	5	4.5	8		M	N	Street tree, distorted trunk, vehicle damage 3m a.g.l. SE side, asymmetrical crown form biased over highway due to building.	40+	B1

APPENDIX 2

Root Protection Area

(Calculations)

Tree No.	Species	Stem Dia (mm)	Age Class	Remaining contribution (est. years)	Category grading	Root protection	
						Radius (m)	M^2
T1	London Plane	330	EM	20+	C1	4	49.3
T2	London Plane	490	EM	40+	B1	5.9	108.6
T3	London Plane	490	EM	20+	B1	5.9	108.6
T4	London Plane	360	EM	40+	B1	4.3	58.6
T5	London Plane	290	EM	20+	C1	3.5	38.1
T6	London Plane	530	EM	40+	B1	6.4	127.1
T7	London Plane	630	M	40+	A1	7.6	179.6
T8	London Plane	520	M	40+	B1	6.2	122.3
T9	London Plane	500	M	40+	A1	6	113.1
T10	London Plane	790	M	40+	A1	9.5	282.4
T11	London Plane	700	M	40+	B1	8.4	221.7
T12	London Plane	650	M	40+	A1	7.8	191.2
T13	London Plane	620	M	40+	A1	7.4	173.9
T14	London Plane	600	M	40+	B1	7.2	162.9
T15	London Plane	710	M	20+	B1	8.5	228.1
T16	London Plane	670	M	20+	B1	8	203.1
T17	London Plane	510	M	20+	B1	6.1	117.7
T18	London Plane	490	M	40+	B1	5.9	108.6

APPENDIX 3

Photographic Record

1. General view of London Plane (T1 to T6) located to north east of building within paved open space.

2. London Plane (T6) visible from Charing Cross Road east along Phoenix Street.

3. Typical tree station detail around London Plane T1 to T6 .

4. Detail view of London Plane (T4) with block paving displaying radial disturbance to south typically characteristic of surface root action.

5. Detail view of London Plane (T6) with block paving displaying radial disturbance to west typically characteristic of surface root action..

6. Detail view of existing plinth forming basement adjacent amenity area (Stacey Street).

7. Detail view of typical vehicle damage on highway side 3m a.g.l.

8. General view of London Plane within Charring Cross Road inclined to west over highway due to proximity of buildings.

9. Detail view of London Plane (T8 to T11) displaying asymmetrical crown architecture and maintained clearance to building.

APPENDIX 4

Qualifications and Experience

Brief qualifications and experience of Alan Richardson

Qualifications: I hold the National Diploma in Arboriculture and I am a Professional Member of the Arboricultural Association.

Career experience: I started my career at the grass roots of the industry working in Britain and West Germany, obtaining experience in all aspects of practical tree care. In 1989 I joined Westminster City Council as an Arboricultural Officer, dealing with municipal tree management. This provided me with a comprehensive insight into the social, safety and contract management issues of urban tree management.

In 1991 I joined English Heritage as the Trees and Woodlands Advisor providing specialist advice on all aspects of trees, woodlands and forestry within the historic environment. During the next nine years, I developed and established national policy and strategy for tree management on the 420 historic properties under guardianship including the co-ordination, inspection and monitoring of the annual H&S inspection programme, contracts and standards and represented English Heritage on policy matters relating to trees, including liaison with other government departments on joint projects such as the Veteran Tree Initiative and the Parklands & Wood Pasture Habitat Action Plan.

As a Director of ***tree* : fabrik**, I draw on the wide range of experience obtained and specialise in supplying bespoke arboricultural planning services to Local Planning Authorities and the private sector. This includes advising on a full range of tree issues within the planning environment, providing site surveys to BS5837 (2012), arboricultural impact reports, method statements and supervision, development control advice to Local Planning Authorities, successful enforcement and prosecution, appeal statements and attendance at hearings, liaison with and on behalf of Local Planning Authorities, developers, architects and town planners.

This comprehensive experience and current working knowledge of Local Authorities and the private sector encourages a pragmatic approach that has been found to be of benefit to all parties.

Continuing professional development**:** I keep current on arboricultural issues and best practice through membership of the Arboricultural Association and attendance at short courses.

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