OAKFIELD
ARBORICULTURAL SERVICES

Arboricultural Impact Assessment & Method Statement

20 – 24 Russell Square, London

OAS 21-062-AR01

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DISCLAIMER

While all reasonable efforts have been made to identify defects in the subject trees, the statements made in this report do not take into account the effects of extreme weather events, vandalism, accidents or changes to the site that may affect trees that have taken place since the date of the survey. Oakfield Arboricultural Ltd does not accept any responsibility in connection with these factors. The comments and observations made within this report will cease to be valid either within two years of the date of the survey (unless specifically stated elsewhere within the report), or when site conditions change or any works to trees take place that have not been specified within this report, whichever is the sooner.

1.0 Introduction

1.1.1 Oakfield Arboricultural Services were instructed to undertake a tree survey and provide arboricultural advice on the site known as 20 – 24 Russell Square, London to accompany a planning application.

1.1.2 A detailed survey was undertaken in March 2021 and was carried out in accordance with BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'

1.2 Scope of Works

1.2.1 The scope of 'Trees in relation to construction' is to provide recommendations and guidance on how trees and other vegetation may be satisfactorily integrated into construction and development projects. The overall aim of this is to ensure the continued longevity and quality of amenity contribution that trees appropriate for retention and protection provide. This report and its appendices follow precisely the strategy for arboricultural appraisal and input intended to provide councils with evidence that trees have been properly considered throughout the development process.

1.2.2 This is a preliminary assessment from ground level and observations have been made solely from a visual perspective for the purposes of assessment in terms relevant to planning and development. No invasive or other detailed internal decay detection devices have been used in assessing internal conditions.

1.2.3 Any conclusions relate to conditions found at the time of inspection. Any significant alteration to the site that may affect the trees that are present or have a bearing on planning implications (including level changes, hydrological changes, extreme climatic events or other site works) will necessitate a re-assessment of the trees and the site and render any previous advice/ findings invalid.

1.2.4 This is an arboricultural report and no such reliance must be given to comments relating to buildings, engineering, soil or ecological issues.

1.3 Documentation

1.3.1 The following documentation has been made available

- Topographical survey
- Proposed layout

2.0 Site & Tree Discussion

2.1 Site Description

2.1.1 The site is 20- 24 Russell Square in London and comprises the main buildings, courtyard to the rear and an area on open ground to the east end of the terrace building. Within a built up area there are other buildings to the north, east and west with Russell Square gardens to the south.

2.2 Tree Discussion

2.2.1 A total of three individual trees, and x groups of trees have been assessed in detail from ground level by visual means only. The Tree Survey Schedule, at Appendix 2, details the trees in respect of dimension and quality in accordance with the methodology set out in the British Standard 5837:2012.

2.2.2 T1 a Tree of Heaven is in poor overall condition and form having been significantly and poorly topped/ reduced, T2 is a fine Magnolia specimen although not strictly visible from any public area and T3 is a Multistemmed specimen located in the open ground area.

3.0 Development Implication Assessment

3.1 The proposal

3.1.1 The proposal is to redevelop the site for educational purposes and will include the demolition and replacement of the rear extension. Proposals will also include making the open area a usable open play space.

3.1.2 Th proposal will require the removal of T2 Magnolia as it is too close to demolition and construction works to realistically retain, a replacement Magnolia will be planted post construction. T1 and T3 will both be retained and therefore protected during the construction.

3.2 Access

3.2.1 Access for construction purposes will likely be via the open ground area to the eat and as long as tree protection measures are installed will have no material effect on T1 or T3.

3.3 Demolition

3.3.1 Demolition activities will be too far from T1 and T3 to warrant any significant concern.

3.4 Construction

3.4.1 Foundations for the new extension are not within the root areas of retained trees therefore no specialist considerations are required.

3.4.2 Hard surfaces are shown within the root area of T1 however this is existing and as such will not have any increase in the effect on T1. Any replacement surface is recommended to be constructed at existing levels and or from any existing sub foundation layer so as to avoid the need for excavation in the top layer of soil and possible root damage.

3.4.3 Decking in and around T3 will be suspended with post support these should seek to minimise excavation to avoid potential root damage. Consideration of visible surface root s will be required with posts deviated as required. The decking will be permeable in nature and unlikely to effect the healthy retention of T3.

3.4.4 Services such as drainage must be directed out of the root areas of retained trees, it is unlikely that specialist installation methods will be required. Service routes must be confirmed prior to installation.

3.5 Cultural implications for retained trees

3.5.1 Tree works will be required to ensure adequate height clearance for T3 and will include minor crown lifting and or reduction, such works are unlikely to have any detrimental effect on tree health and or retention.

3.6 Tree protection

3.6.1 Tree protection fencing will be required to be installed as shown on the Tree Protection Plan OAS 21-062-TS02. Fit for its purpose fencing must be installed post any tree works and before construction begins on site and will remain in situ throughout the construction phase.

3.6.2 Access for construction within the RPA if required will necessitate the installation of ground protection which must be of a standard as required for its need i.e. pedestrian or vehicular access.

4.0 Conclusions

4.1.1 The proposal will require the removal of one individual tree T2 to accommodate the construction. The tree will be mitigated by a replacement planted post construction and must be of a reasonable size.

4.1.2 Proposed surfaces in and around T1 and T3 are achievable without significant detriment to their retention, design specification are recommended to be submitted prior to installation.

4.1.3 As long as the construction methods are sensitive to the retained trees and protection methods are adhered to the proposal will have no material effect on their health and or value.

Preliminary Method Statement

1.0 Summary

1.1 The purpose of this report is to aid the preservation of trees shown to be retained at and adjacent to the site shown on the attached plan OAS/ 21-062-TS01, TS03. Trees can easily be retained and effectively protected during the proposed redevelopment of the site, by clearly setting out the tree protection methods, construction techniques and working practices. This document provides this information; principles that are approved and enforced by the local planning authority.

1.2 This document gives site specific instructions on the methods required to protect the existing tree stock agreed to be retained. These methods are set out in a logical sequence of operations

1.3 The BS recommendations are made for appropriate barriers to exclude construction from RPA's: The RPA for each tree or group is provided in the tree survey schedule. The protective barriers are sacrosanct and no construction activities shall take place within this zone. This fencing should be erected in position prior to any construction and be maintained in position for the duration of the development process.

1.4 The Tree Protection Plan (TPP) will indicate retained trees, trees to be removed, the precise location of protective barriers and ground protection, service routing and specifications, areas designated for structural landscaping to be protected and suitable space for site materials storage and other construction related facilities. This document and the associated TPP will be endorsed by planning conditions, agreement or obligation as appropriate.

2.0 Important Tree Information

2.1 As the majority of tree roots are found in the upper metre of soil, development works, including for example even shallow excavation, soil compaction and soil contamination, can be harmful to trees in close proximity. Trees differ in their tolerance of root loss or disturbance, according to their age, species and/or condition. All protection works within

this document will be in accordance with BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'

2.2 An assessment of the site's tree stock has been undertaken and those trees to be retained are clearly shown on the Tree Protection Plan (TPP). A calculation has been made of the volume of soil required to ensure the survival of these and this is represented by the Root Protection Area (RPA) indicated by the magenta circles or squares around the retained tree on the plan.

2.3 The RPA has been used to inform the Construction Exclusion Zone (CEZ), the area to be protected during development by the use of barriers, ground protection and specialised construction techniques - outlined below:-

3.0 Sequenced Methods of Construction and Tree Protection

P1.0 Phase 1 - Pre Contract Meeting

P1.1 An onsite meeting will be held, if required with all relevant parties including the developer, appointed arboricultural supervisor and Local Planning Authority (LPA) representative. The purpose of this meeting is to record site features including tree condition, agree tree works (detailed below), location of permanent and temporary access, location of site storage and the location of tree protection barriers.

P2.0 Phase 2 - Execute Agreed Tree Works

Tree No	Proposed Works	Comments
T2	Remove	To accommodate the construction
T3	Crown lift to give 2.4m height clearance under crown. Remove secondary and tertiary branches only where possible	Adequate height clearance.

P2.1 All tree work is to conform to BS 3998:2010 and to current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor,

who carries the appropriate experience and insurance cover and following formal approval from the LPA

P3.0 Phase 3 - Tree Protection Barriers and ground protection

P3.1 In order to protect the tree stems from significant construction activity, protection barriers will be erected. See Plan for fencing location. Fencing should be of a reasonable standard and suitable for the purpose of preventing machinery entering the protected zones see example given below in appendix 1.

P3.2 Once the barriers have been properly erected in position, they are to be considered as sacrosanct and are not to be removed or altered in any way without prior approval from the LPA.

P3.3 Clear notices are to be fixed to the outside of the fencing with words such as 'PROTECTED AREA – NO ACCESS AND NO STORAGE OR WORKING WITHIN THIS AREA'. All operatives and other relevant personnel are to be informed of the role of the exclusion barriers and their importance.

P3.4 The location of the protection barriers is indicated on the TPP. The barriers will be erected prior to any works on site in the vicinity of retained trees, including the delivery of machinery, materials, plant or equipment to the site or any adjacent land. The barriers will remain in situ until final completion or a time agreed by the LPA and Contractor.

P3.5 If required access for construction operations can be located within a tree's RPA; a combination of barriers and ground protection should be adopted to form the CEZ.

- For pedestrian access, a single thickness of scaffold boards placed on a driven scaffold frame, so as to form a suspended walkway or on a compressive- resistant layer such as, e.g. woodchip 100mm min, laid onto a geotextile membrane will be sufficient.
- For pedestrian operated machinery up to a gross weight of 2t inter linked ground protection boards places on top of a compression- resistant layer, as above, will be required.

- For machinery greater than 2t and engineered specification will be required.

P4.0 Phase 4 - Ground works

P4.1 Spoil, including soil and rubble surplus to requirements will be removed from site and not stored against any protective fencing.

P4.2 Any new service runs to be located outside any indicated RPA

P5.0 Phase 5 - Dismantling Protection Barriers and Landscaping Works

P5.1 A minimum of seven days notice will be given to the LPA prior to the dismantling of the protection barriers.

P5.2 All landscaping once the barriers have been removed will avoid soil re-grading and disturbance within the CEZ and no soil levels be altered after the protection barriers have been removed. All vehicles are strictly prohibited from entering any RPA once barriers are removed.

4.0 General Principles for Tree Protection

4.1 A copy of this AMS and the attached TPP is to be retained on site at all times and all personnel associated with the construction process will be made familiar with the principles within.

4.2 No fires are to be lit on site at any stage during the construction process.

4.3 A designated storage area is to be created away from retained trees. All materials for construction purposes are to be stored in this compound. Care must be taken to avoid the leakage or leaching of noxious materials into the soil.

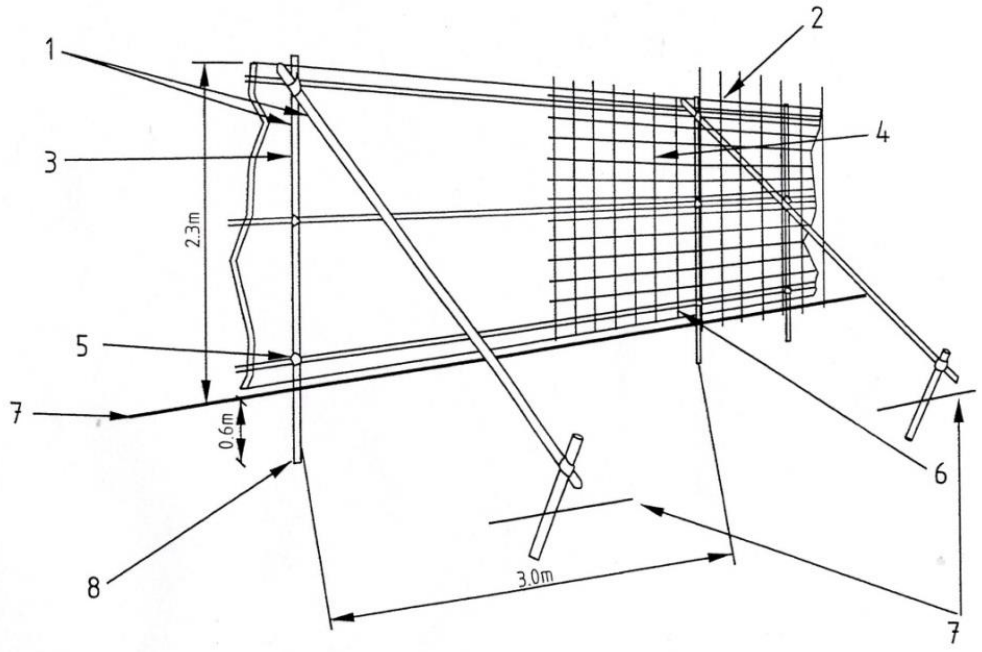
4.4 No materials will be stored or left stacked in positions around the site other than within the storage compound area.

5.0 Communication Details, Monitoring and Compliance

5.1 In order to ensure that the principles of tree protection set out in the statement are adhered to, it is important to set out communication details for key individuals and tasks that require monitoring. These details should be retained by all relevant parties and available on site at all times. Relevant parties will be advised of any changes in personnel or contractor during the development process.

5.2 Before construction begins written confirmation that the developer/contractor or its agents agree to comply in full with the principles set out within this Method Statement will be lodged with the LPA.

Appendix 1: Tree Protection Fencing



1 Standard scaffold poles

2 Uprights to be driven into the ground

3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps

4 Weldmesh wired to the uprights and horizontals

5 Standard clamps

6 Wire twisted and secured on inside face of fencing to avoid easy dismantling

7 Ground level

8 Approx. 0.6 m driven into the ground

Figure 2 — Protective barrier

Appendix 2 Tree Survey Schedule

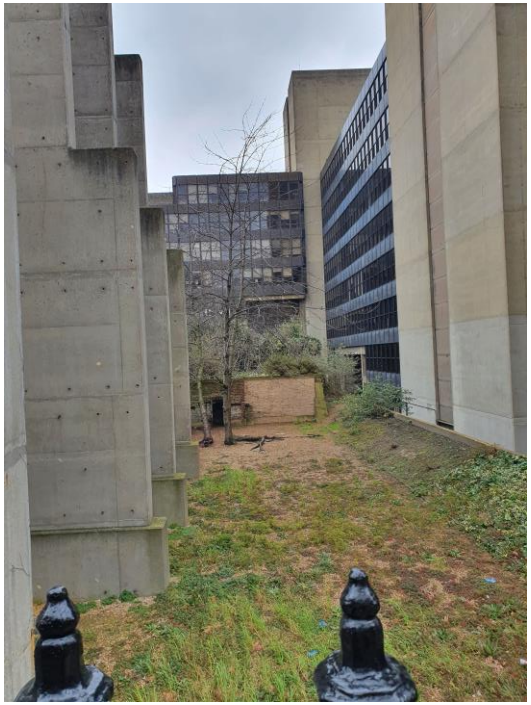
			Canopy Spread													
Tree Ref. No.	Species (Common Name)	Height (m)	N	E	S	W	Grnd Clrnc	DBH (mm)	RPR (cm)	RPA (m)	Age class	Gen Cond	Structural Defects/Comments	Estimated remaining contribution (BS 5837)	BS Cat	BS Sub Cat	Prelim Tree Work Recommendations
T1	Tree of Heaven	12	3	3	3	3	3	450	540	91.56	MA	F	Significantly topped/ reduced multiple open wounds and poorly attached re-growth	20+	C	1	
T2	Magnolia	11	4	4	4	3	2	300	360	40.69	MA	F	Bifurcated. Large specimen in good overall health not visible to public	20+	B	1	
T3	Cherry	14	4	4	4	4	1	225	270	22.89	MA	F	3 x stems planted but not maintained. Exposed roots with poor form but stable.	20+	C	2	

Tree Schedule Explanatory Notes

Ref.no	Identifies trees, groups and hedges on the accompanying plan.
Species	Common names are provided to aid wider comprehension.
Height	Describes the approximate height of the tree measured in metres from ground level
Canopy Spread	Indicates the crown radius from the base of the tree in four compass directions, recorded to the nearest metre.
Ground Clearance	Height of crown clearance above adjacent ground in metres.
DBH (mm)	DBH is the diameter of the stem measured in cm at 1.5m from ground level for single stemmed trees or just above root flare for multi-stemmed trees. Stem Diameter may be estimated where access is restricted.
RPR (cm)	Root Protection Radius (RPR) is area required to be protected measured radially from the trunk centre.
RPA (m^2)	Root Protection Area (RPA) is the minimum rooting area in m^2 which should remain undisturbed around each tree.
Age Class	Age of the tree expressed as Y- Young, MA- Middle-Aged, EM- Early Mature, M- Mature or OM- Over-Mature
General Condition	Overall condition of tree expressed as :Good, Fair, Poor, Dead
Structural defects/Comments	May include general comments about growth characteristics, how it is affected by other trees and any previous surgery works. Also specific problems such as dead wood, pests, diseases, broken limbs. Etc
Estimated Remaining Years	Categorised in year bands of less than 10, 10+, 20+, 40+
BS Category	B.S. Cat refers to (BS 5837:2005 Table 1) and refers to tree/overall group quality and value; 'A' - High; 'B' - Moderate; 'C' - Low; 'U' - Remove.
Sub Category	Sub Cat refers to the retention criteria values where 1 is arboricultural, 2 is landscape and 3 is cultural including conservational, historic and commemorative

Appendix 3 Photos

T2, View of T3 from the street and showing surface roots of T3



Showing T3 from courtyard and T1

Appendix 4 Tree Constraints/ Protection Plans

T1

T2

T3

KEY

T1 Existing Tree colour referenced in accordance with BS 5837 2005.

Blue – Cat B Trees of moderate quality and value

Grey – Cat C Trees of low quality and value

Root Protection Area as calculated in accordance with BS 5837

Shade pattern as to BS:5837.

N

REV.	DATE	INITIALS	DETAILS
.	.	.	.

CLIENT c/o Building Plans	DWG. TITLE Tree Constraints/ Protection Plan
SITE: 20– 24 Russell Square, London	

DRAWN BY	CHECKED BY	SCALE	DATE	DWG NO.	REV.
SPM	SPM	1:100 @A1	March 2021	OAS 21–062–TS01	.

KEY

- T1 — Existing Tree colour referenced in accordance with BS 5837 2005.
- Blue – Cat B Trees of moderate quality and value
- Grey – Cat C Trees of low quality and value
- Root Protection Area as calculated in accordance with BS 5837
- Trees/ groups (part or whole) to be removed
- TPF — Approximate line of protective fencing to be installed and maintained for the duration of construction works.

T1

T2

T3

Existing hard paved area

TPF

N

REV.	DATE	INITIALS	DETAILS
.	.	.	.

CLIENT c/o Ellis Williams Architects	DWG. TITLE Tree Protection Plan
SITE: 20– 24 Russell Square, London	

DRAWN BY	CHECKED BY	SCALE	DATE	DWG NO.	REV.
SPM	SPM	1:100 @A1	April 2021	OAS 21-062-TS02	.