Arboricultural Method Statement
Great Ormand Street Hospital Children's Cancer Centre (GOSHCCC)

Date: June 2023

ADAS Reference: 1050736-04

Submitted to:

John Sisk & Son (Holdings) Ltd,
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Prepared by:

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK ADAS Ltd.

Revision History

Version	Date	Amendment
-	June 2023	First Issue

1 Executive Summary

ADAS has been commissioned by John Sisk & Son Ltd to provide an Arboricultural Method Statement (AMS) in respect of proposed demolition and construction works affecting the Root Protection Areas (RPAs) of retained trees adjacent to the Great Ormand Street Hospital (GOSH) development proposals.

The proposal for the redevelopment of the Great Ormand Street Hospital (GOSH) Frontage Building (Ref: 2022/2255/P) was granted planning permission on the 17th of April 2023 subject to conditions. Condition 7 of the Decision Notice relates to trees as follows;

'*Prior to the commencement of any works on site, details demonstrating how trees to be retained on Great Ormond Street shall be protected during construction work shall be submitted to and approved by the local planning authority in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details.'*

ADAS prepared an Arboricultural Planning Statement Report (Ref: ADAS_Great Ormond Street Hospital_ APS_June 2022_RevF) in respect of the development, this document shall be used in addition to this approved report and addresses the protection and construction activities adjacent to retained trees within the site and on the approved document GOSH-CCC-Proposed Traffic and Highway Alterations drawing numbers; GOSHCCC-JSS-ZZ-XX-SK-0W-1000-0029, GOSHCCC-JSS-ZZ-XX-SK-0W-1000-0031 and GOSHCCC-JSS-ZZ-XX-SK-0W-1000-0032.

The works under consideration at this site are; The operations under consideration within this AMS relate to pruning works to trees, installation of stem protection for retained one tree, kerb line remediation within the RPAs of retained trees, movement of high-sided vehicles and site monitoring.

2 Introduction

2.1 Client Instruction

This report was commissioned by the appointed design and build contractor John Sisk & Son (Holdings) Ltd in June 2023 and is pertinent to the site known as Great Ormond Street Hospital Children's Cancer Centre (GOSHCCC).

2.2 Project Background

The proposal for the redevelopment of the Great Ormand Street Hospital (GOSH) Frontage Building (Ref: 2022/2255/P) was granted planning permission on the 17th of April 2023 subject to conditions. Condition 7 of the Decision Notice relates to trees as follows;

'*Prior to the commencement of any works on site, details demonstrating how trees to be retained on Great Ormond Street shall be protected during construction work shall be submitted to and approved by the local planning authority in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details.'*

ADAS prepared an Arboricultural Planning Statement Report (Ref: ADAS_Great Ormond Street Hospital_ APS_June 2022_RevF) in respect of the development, this document shall be used in addition to this approved report and addresses the protection and construction activities adjacent to retained trees within the site and on the approved document GOSH-CCC-Proposed Traffic and Highway Alterations drawing numbers; GOSHCCC-JSS-ZZ-XX-SK-0W-1000-0029, GOSHCCC-JSS-ZZ-XX-SK-0W-1000-0031 and GOSHCCC-JSS-ZZ-XX-SK-0W-1000-0032.

2.3 Purpose of Report

The purpose of this report is to provide supplementary information detailing the specific protection measures and precautionary working practices to be adopted to ensure the protection of retained trees as an extension to the information presented within the approved APS referenced above.

This document is intended as a reference point for all site operatives and a copy will remain with the site manager for the duration of the development.

This document may be used as a point of reference if there were to be a dispute over compliance with related planning conditions.

2.4 The Author

This document has been prepared by Ellen Boardman, an ADAS Senior Arboricultural Consultant. Ellen is a Professional Member of the Arboricultural Association and holds the MSc in Arboriculture and Urban Forestry. Ellen has 18 years of experience within the arboricultural industry, both in the Public Sector as a Tree Officer and in the Private Sector as an Arborist and Arboricultural Consultant.

2.5 Site Description

The majority of the site is currently occupied by the existing GOSH Frontage Building, a five-storey building (inclusive of basement) dating from the 1950s that was constructed in two separate phases. The building is currently occupied by a number of GOSH departments including Audiology Department, Clinical Research Facility (CRF), Department of Child and Adolescent Mental Health and Paediatric Psychology Department.

For the purposes of this report, reference to 'the site' relates to land shown in the Tree Protection Plan as the Construction Exclusion Zone and the associated access and egress route for high sided vehicles as shown in GOSHCCC-JSS-ZZ-XX-SK-W-1000-0029, GOSHCCC-JSS-ZZ-XX-SK-W-1000-0031, GOSHCCC-JSS-ZZ-XX-SK-W-1000-0032, proposed traffic and highway alterations.

The western most part of the site is occupied by the main GOSH Entrance providing connections to the wider GOSH hospital island site and by a small rear element (external staircase) of the Paul O'Gorman Building that will be demolished to facilitate the proposed development.

The site is bounded by the Paul O'Gorman Building to the west, Octav Botnar Wing to the east, the Variety Club Building and Premier Inn Clinical Building to the north and Great Ormond Street to the south.

2.6 Assumptions and Limitations

This assessment is based upon the information provided by the client in addition to information collected by ADAS during a survey of the site undertaken on 7th January 2020 with additional site visits to include areas covered by the construction management plan on 19th June 2023. The documents and drawings considered are detailed within **Table 1**.

Table 1: Documentation Considered

Author	Document Title	Drawing / Document Number	Date
ADAS	Arboricultural Planning Statement	ADAS_Great Ormond Street Hospital_APS-RevF	May 2022

Author	Document Title	Drawing / Document Number	Date
John Sisk & Son/DPD	GOSH- CCC – Proposed Traffic and Highway Alterations	GOSHCCC-JSS-ZZ-XX-SK-W-1000-0029, GOSHCCC-JSS-ZZ-XX-SK-W-1000-0031, GOSHCCC-JSS-ZZ-XX-SK-W-1000-0032	June 2023
John Sisk & Son/DPD	S73 BDP Presentation	GOSHCCC-BDP-ZZ-ZZ-RP-A-2000-0054 (P01)_S2	April 2023

The Tree Protection Plan (TPP) contained in **Appendix 1** has been developed from the tree survey information.

This report assumes that the proposed design layout demonstrated on the Tree Protection Plan (TPP) contained in **Appendix 1** is the final layout.

This report is only intended for use by the person(s), or company named on the front cover.

This report is not a full hazard or risk assessment of trees and should not be used as such.

Trees are living organisms and are constantly adapting to their ever-changing environment. No tree is completely safe and there is no guarantee that problems or deficiencies may not arise in the future, which have not been identified in this report. Therefore, this report is only valid for a period of 1 year from the date of the initial site inspection.

2.7 Tree Survey Methodology

The tree survey of the site was undertaken by Ed Lusk on 7th January 2020 with additional trees surveyed for the access and egress route for high-sided vehicles surveyed by Iain Waddell on 19th June 2023. The 2020 survey number is highlighted in yellow on the Tree Survey Schedule (**Appendix 3)**, and the 2023 survey is highlighted in green. The tree survey was carried out in accordance with the recommendations contained within 'BS5837:2012 Trees in Relation to Design, Demolition and Construction: Recommendations'.

All trees have been visually inspected from ground level unless otherwise stated, with no climbing or boring tests being undertaken. The comments made on their condition are based on observable factors present at the time of inspection.

The information, shown in **Table 1** below, was recorded as part of the tree survey.

Table 1: Tree Survey Schedule heading descriptions

Column Heading	Description
Tree Ref No.	All individual trees and groups of trees have been given a unique reference number. Each number is prefixed by a letter. ▪ T = Individual tree ▪ G = Group of trees
Species	The English common name has been used.
Single or Multiple stem (S or M)	▪ 'S' represents a tree which has a single clear stem to at least 1.5m above ground level. ▪ 'M(a)' represents a tree where the main stem divides into two to five stems below 1.5m above ground level, and ▪ 'M(b)' represents a tree where the main stem divides into 6 or more stems below a height of 1.5m.
Height (m)	Where possible tree heights are measured using a laser. In some instances, such as in close groups of trees, one height may be measured, and other nearby trees estimated from this height. Measurements are provided in metres.
Stem Diameter (mm)	S_n represents the stem number. Measurements are provided in millimetres at 1.5m above ground level for single stemmed trees.
Branch Spread (m)	Measured in metres to the four cardinal compass points (N, E, S, W).
Crown Clearance	(1) Height in metres of the first significant branch, and the direction of growth. (2) Height in metres of lowest part of crown.
Life Stage	The stage at which the tree is within its lifecycle (Y = young, SM = semi-mature, EM = early-mature, M = mature, OM = over mature, V = veteran)
General Observations	Any relevant observations are recorded, with reference to structural and/or physiological condition.
Preliminary Management Recommendations	Recommendations are made where management work is required for reasons of health and safety or sound arboricultural management.
Estimated Remaining Contribution (years)	An estimation of how long the feature will contribute to its surroundings. This is recorded in bands of either <10 years, 10+ years, 20+ years and 40+ years.
Tree Quality Grading	The trees are graded to the categories prescribed within BS5837:2012 (U, A, B & C). Details of this grading system can be found in **Appendix 2.**
Root Protection Area	Calculated as prescribed in section 4.6 of BS5837:2012, provided as an area (m^2) and a radius from the tree's stem (m).
Note: Those measurements shown in *italics* have been estimated, usually where access has restricted it being taken.	

2.8 Legislation

2.8.1 Tree Preservation Orders and Conservation Areas

Local Planning Authorities (LPAs) have the power to preserve selected trees and woodlands through the making of Tree Preservation Orders (TPOs). Similarly, special provision is provided to trees located within Conservation Area's (CA) which are not the subject of a TPO. The LPAs powers to do this are provided by the following Act of Parliament and its associated regulations:

- Town and Country Planning Act 1990
- Town and Country Planning (Determination of Appeals by Appointed Persons) (Prescribed Classes) (Amendment) (England) Regulations 2008
- Town and Country Planning (Tree Preservation) (England) Regulations 2012

The principal effect of a TPO is to prohibit the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees without first obtaining the consent of the relevant Local Authority.

Where works to trees within a CA are proposed, six weeks notification must first be given to the relevant Local Authority.

Unauthorized works to trees either protected by a TPO or those that are located within a CA, could result in an unlimited fine for each tree.

An enquiry to Camden Council on 23rd June 2023 confirmed that there are no TPOs within the site nor on the trees that are part of the access and egress route for high sided vehicles. The area falls within the Bloomsbury Conservation Area and therefore six weeks notice shall be given to Camden Council.

3 Tree Survey Results and Impact Assessment

3.1 Tree Survey Results

The tree survey identified 25 tree features, composed of 24 individual trees and one group of trees which have the potential to be impacted by the proposed development including the access route for high-sided vehicles.

The trees were surveyed on the 7th of January 2020, tree number highlighted in yellow on schedule, and 19th of June 2023, tree number highlighted in green on schedule.

Of these tree features, six were awarded a high-quality A grade, two awarded a moderate-quality B grade and 17 were awarded a low-quality C grade. No trees were considered unsuitable for retention, U grade.

Just under half of the trees surveyed (11) were categorised as young, with the remaining trees being equally split between semi-mature (6), early-mature (2) and mature (6).

A full tree survey schedule is included in **Appendix 3**.

3.2 Assessment

The impact the proposals are likely to have on the existing trees has been assessed under the following categories, and the findings are summarised in **Table 2** below.

- Trees proposed for removal. This includes trees:
  - that are under the footprint of the proposed works
  - whose Root Protection Areas (RPAs) are heavily affected by the works
  - which are to be removed for reasons of sound arboricultural management.
- Retained trees that require works to their crown or require extra protection due to their proximity to the proposed works area and site traffic.
- Retained trees which are unaffected by the development proposals.

Table 2: Arboricultural Impact Assessment

Impact	Reason	Tree Quality Assessment Category Grading*				Totals
		A	B	C	U	
Trees to be removed *	Trees are directly within the development area	None	G1	T5, T6, T7, T8, T9, T10, T11, T12, T13, T14	None	**11**
Retained trees that are at risk of damage due to proximity to the proposed development	Tree is within the site hoarding for the development area	None	T4	None	None	**1**
Trees that require pruning to facilitate the development	Crow low over site area	None	T4	None	None	**1**
Retained trees that require pruning to facilitate safe access for high-sided vehicles	Crown require works to prevent damage by high sided vehicles	T15, T16, T17, T23, T24	T4	T19, T20, T21	None	**9**
Retained trees where current decorative stone edging will be replaced with highways kerb	Trees will not be adversely affected providing methodology in section 6.5	T16	None	None	None	**1**
Retained trees that require bankmen whilst being passed by high sided vehicles	Banksmen are required to prevent impact between trees adjacent to the access and egress route for high sided vehicles.	T15, T16**, T17, T22, T23, T24	T4	T18, T19, T20, T21	None	**11**
	Totals	**12**	**5**	**17**	**None**	**34**

**Trees to be removed granted under planning permission 2022/2255/P*

***T16 requires two banksmen as per section 6.6*

3.3 Impact

3.3.1 Above ground

Based on the proposed site plan ten low-quality category C trees will need to be removed and one group of moderate-quality category B trees will need to be removed.

As a significant majority of the trees are of low-quality, with only one moderate-quality group, it is deemed acceptable to remove them to facilitate the development. These removals have subsequently been approved under planning permission 2022/2255/P.

Five high-quality category A trees, one moderate-quality category B tree, and three low-quality category C trees need to be pruned to allow for access and egress of high-sided vehicles to facilitate the development. The pruning detailed in the specification in **Table 3** below are considered to be low impact to the retained trees. The specification is detailed so that the minimum number of branches are removed to create adequate clearance for high-sided vehicles without compromising the visual amenity of the trees. A competent and qualified contract shall be used to undertake the works. Correct target pruning of branches based on BS3998 (2010) 'Tree work – Recommendations and industry best practice' will further limit any detrimental effect to the trees due to pruning works. Trees T15, T16, T17, T23 and T24 are high value category A trees and so preserving their visual amenity is extremely important.

A detailed schedule of tree pruning is contained in **Appendix 4** which will describe the location and extent of pruning required for each of the trees.

Additional precautions will also be put in place to minimise any impact to these trees on completion of the facilitation pruning work. **Section 6** below details tree protection measures needed to be installed to prevent any damage to the stem and canopy of these trees.

3.3.2 Below Ground

Work within RPA's of retained trees is limited to the replacement of the decorative stone edging with Highways Kerbing within the current footprint of the decorative stone edging. The work is confined to the position of the existing kerb. Providing the methodology is followed in **Section 6.4** below there will be no negative effect on T16, the high-quality A grade retained tree.

4 Works Under Consideration

The operations under consideration within this AMS relate to pruning works to trees; T15, T16, T17, T23, T24 (high-quality A grade trees), T4 (moderate-quality B grade tree), T19, T20, T21 (low-quality C grade trees); installation of stem protection for retained tree T4; and kerb line remediation within the RPAs of retained tree T16; movement of high-sided vehicles and site monitoring of trees T15, T16, T17, T18, T19, T20, T21, T22, T23, T24.

5 Arboricultural Method Statement: Construction Stages - General

5.1 Site Briefings

The Site Manager is responsible for ensuring that all personnel are made fully aware of the constraints posed by retained trees on site and the measures in place to ensure they are protected, including having full on-site access to the Arboricultural Method Statement and Tree Protection Plan. It is good practice for the site arboriculturist to be involved in site briefings to ensure all constraints and tree protection measures are clearly understood.

5.2 Site Monitoring

An auditable system of site monitoring shall be established at the pre-commencement site meeting to; guide contractors on site, ensure that tree protection measures are implemented and adhered to and to demonstrate to the Local Planning Authority that Planning Condition 7 has been met satisfactorily. An example Site Monitoring Form is included as **Appendix 5**.

This includes site visits by the site arboriculturist to confirm the correct installation of protective fencing and to sign off the construction stages when works are complete and associated tree protection fencing can be dismantled.

5.3 Appointment of Site Arboriculturist

A suitably qualified and competent arboriculturist must be employed to monitor all stages of the construction process and to ensure retained trees are protected in accordance with the Arboricultural Method Statement and accompanying Tree Protection Plan.

Site based activity must be recorded in accordance with the accompanying Site Monitoring Form included as **Appendix 5**.

5.4 Toolbox Talk

A Toolbox Talk should be provided to site workers prior to completing any of the specific operations that have the potential to impact retained trees set out within this report. A copy of the AMS and TPP should be used in the process of explaining to all personal the methodologies to be adopted to ensure retained trees are not damaged; copies of both the TPP and this Method Statement must be available in the Site Office at all times.

5.5 Movement of Vehicles, People and Plant

Construction works (in particular the use of machinery) must be carefully co-ordinated to avoid damage to retained trees and should adhere to operating outside of the tree protection barrier's locations on the accompanying Tree Protection Plan. A banksman must be in place for any operations which occur within

5m of any part of a retained tree canopy at all times. This relates to trees T4, T15, T16, T17, T19, T20, T21, T23, and T24.

6 Arboricultural Method Statement – Specific Operations

6.1 Tree removal

The removal of 10 trees and one group of trees directly to the front of the existing building on the north side of Great Ormond Street to facilitate the proposed development: T5, T6, T7, T8, T9, T10, T11, T12, T13, T14 and G1. The removal of these trees has been approved under planning application 2022/2255/P. These trees shall be removed by an approved contractor prior to any other works beginning on the site.

6.2 Tree pruning

Pruning of eight trees is the required to allow for the access and egress of deliveries from high-sided vehicles and exceptional loads, maximum vehicle heights will be 5m. The specification for tree pruning is detailed in the **Table 3** and also shown in the schedule of tree pruning in **Appendix 4.**

Table 3: Pruning specification

Tree number	Species	Pruning specification
T4	Tree of Heaven	Crown lift over Road to give 5m clearance, small diameter branch ends only
T15	London plane	3x small diameter branch end to be reduced <25mm in size
T16	London plane	2x small diameter branch end to be reduced <25mm in size
T17	London Plane	4x small diameter branch end to be reduced <25mm in size
T19	Ash	2x 30mm diameter branch end to be reduced back to branch union. 2x 40mm diameter branch to be reduced back to branch union to give 5m clearance
T20	Ash	2x 30mm diameter branch end to be reduced back to branch union to give 5m clearance
T21	Ash	3x 30mm diameter branch end to be reduced back to branch union to give 5m clearance
T23	London plane	Crown lift the lowest branch ends to 5.5m over the road. Approximately 10 small diameter <25mm branch ends will need pruning

Tree number	Species	Pruning specification
T24	London plane	Crown lift the lowest branch ends to 5.5m over the road. Only 5x small diameter <25mm branch ends will need pruning

6.3 Impacts of works on trees

The works specified in **Table 3** above will have a low negative effect on the health of the trees. Removal of small branches in low quantities such as this specification are generally not considered harmful to healthy trees. Providing the tree work is undertaken by a qualified and competent contractor the loss of crown is low and unlikely to cause any negative effect on either the aesthetic value nor the health of these trees.

6.4 Installation of stem protection

Stem protection positioned around T4 shall be installed as per the Tree Protection Plan in **Appendix 2** following the example in **Appendix 6**. Stem protection shall be a robust wooden construction consisting of hardwood plywood sheet of 18mm thickness attached to upright posts secured to the ground using ground pins, or similar to prevent direct damage to the stem of T4. This stem protection shall be constructed following the removal and pruning of trees and prior to any works being undertaken within the site. This stem protection shall remain in situ for the duration of the redevelopment works and shall only be removed in agreement with the Project Arboriculturist.

6.5 Removal of decorative stone edging and installation of highways kerb

The GOSH – CCC – Proposed Traffic and Highway Alterations requires the kerb line to remediated in Guildford Place for the duration of the construction period and reinstated on completion. This involves the removal of the current decorative stone edging and replacement with highways kerbing. In order to prevent any negative impact on the retained tree, T16, this work shall be carried out as follows;

1. The stone removal and replacement shall be supervised by the Project Arboriculturist due to the proximity to the base and potential for presence of structural roots under the stone.
2. The current edging shall be lifted manually with no excavation outside of the edging line.
3. Highways kerbing shall be directly replaced in the opening created by the removal of the decorative edging.
4. No cement shall be used to secure the kerbing.

5. The kerbing shall be paced at the same time as removal to ensure that no roots are left exposed.
6. If necessary, sharp sand (not builders' sand) can be used to infill the area underneath the kerb where there are roots are present.
7. No tools shall be rested on the stem of the tree during the works.

If any excavation if required either within the surfaced highway or the footway, supervision will be required by the Project Arboriculturist.

The decorative edging shall be replaced following the same procedure on completion of all re-development works within the site.

6.6 Movement of high sided vehicles

Movement of high sided vehicles in close proximity to trees will need to be monitored for the duration of construction. In order to maintain access and prevent direct damage to trees a banksman will be required for movements in close proximity to trees whilst on the approved route for large articulated vehicles as detailed in GOSH – CCC – Proposed Traffic and Highway Alterations. This relates to T4, T17, T18, T19, T20, T21, T22, T23, T24.

Two banksmen will be required for movements around T16. Tree T16 has a natural lean to the north-west, towards the highway, at the entrance to Guildford Place. One banksman shall guide the vehicle alongside the tree with the second banksman adjacent to the tree to communicate proximity to the first banksman. At no point shall direct contact with the tree be made.

6.7 Site monitoring

Provision of site monitoring will provide an auditable trail of evidence of compliance with the arboricultural method statement. A schedule for site monitoring shall be agreed between the Site Manager and Project Arboriculturist at the pre-commencement site meeting. An example of a site monitoring form is in **Appendix 5**

Appendix 1: Tree Protection Plan

See following page.

Tree to be pruned on the eastern aspect to give 5m clearance from ground level

T15*

T17*

Trees to be pruned on the northern aspect to give 5m clearance from ground level

T16*

Tree to be pruned on the western aspect to give 5m clearance from ground level

Arboricultural supervision of works to install temporary highways kerb

T18*

T19*

Tree to be pruned on the western aspect to give 5m clearance from ground level

T20*

Tree to be pruned on the western aspect to give 5m clearance from ground level

T21*

Tree to be pruned on the western aspect to give 5m clearance from ground level

Site welfare

Site hoarding

T14

T13

T12

T11

T10

T9

T8

T7

T6

T5

Trees to be removed under approved planning aplication 2022/2265/P

Site Hoarding

Stem Box Hoarding

T4

Tree to be pruned on southern aspect to give 5m clearance from ground level

T1

T2

T3

T22

T23

T24*

Tree to be pruned on the eastern aspect to give 5m clearance from ground level

Tree to be pruned on the eastern aspect to give 5m clearance from ground level

0 20m

1:500

LEGEND

TREE CATEGORIES - NOTE: Quality class description derived from BS5837:2012

Category A
Trees / Groups of high quality: with an estimated remaining life expectancy of at least 40 years.

Category B
Trees / Groups of moderate quality: with an estimated remaining life expectancy of at least 20 years.

Category C
Trees / Groups of low quality: with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

Category U
Trees / Groups: in such a condition that they cannot realistically be retained as living trees in the context of current land use for longer than 10 years.

Root Protection Area (RPA)

T#*
Trees not included in original site survey and therefore positions are indicative only.

Trees To Be Removed under approved planning application
Trees / Groups: which are to be removed

Stem Protection Hoarding

Arboricultural supervision of works

Site Offices / Welfare Cabins

Based on drawing 'GOSH CCC - Street Environment - June 2023' . Please see original for details.

Rev.	Issue Details.	Date.
First Issue	-	June 2023

Client:
Sisk & Sons

Project:
GOSH

Drawing Title:
Tree Protection Plan

Drawing No: ADAS_1050736_Sisk & Sons_GOSH_TPP

Scale: 1:500 @ A1

Drawn by: IW Date: 22/06/2023

Checked by: EL Date: 22/06/2023

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Appendix 2: Cascade Chart for Tree Quality Assessment

See following pages.

Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories 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	• 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 the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	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	Trees 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 arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
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	See Table 2
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	See Table 2

Appendix 3: Tree Survey Schedule

See following page.

Column Heading	Description
Tree Ref No.	All individual trees and groups of trees have been given a unique reference number. Each number is prefixed by a letter. ▪ T = Individual tree ▪ G = Group of trees
Species	The English common name has been used.
Single or Multiple stem (S or M)	* 'S' represents a tree which has a single clear stem to at least 1.5m above ground level. * 'M(a)' represents a tree where the main stem divides into two to five stems below 1.5m above ground level, and * 'M(b)' represents a tree where the main stem divides into 6 or more stems below a height of 1.5m.
Height (m)	Where possible tree heights are measured using a laser. In some instances such as in close groups of trees, one height may be measured and other nearby trees estimated from this height. Measurements are provided in metres.
Stem Diameter (mm)	S_n represents the stem number. Measurements are provided in millimetres at 1.5m above ground level for single stemmed trees.
Very Large Girth (y/n)	Girth is very large for species inaccordance with Fig 1.3 of publication 'Ancient and other veteran trees: further guidance on management' Acient Tree Forum 2013. RAVEN - Step 1
Ancient (A), Veteran (V) or Notable (N)	Result of the RAVEN assessment © Julian Forbes-Laird 2018 www.flac.uk.com; provided on separate ADAS Sheet 2. (RAVEN = Recognition of Ancient, Veteran & Notable Trees)
Branch Spread (m)	Measured in metres to the four cardinal compass points (N, E, S, W).
Crown Clearance	(1) Height in metres of the first significant branch, and the direction of growth. (2) Height in metres of lowest part of crown.
Life Stage	The stage at which the tree is within its lifecycle (Y = young, SM = semi-mature, EM = early-mature, M = mature, OM = over mature, V = veteran)
General Observations	Any relevant observations are recorded, with particular reference to structural and/or physiological condition.
Preliminary Management Recommendations	Recommendations are made where management work is required for reasons of health and safety or sound arboricultural management.
Estimated Remaining Contribution (years)	An estimation of how long the feature will contribute to its surroundings. This is recorded in bands of either <10 years, 10+ years, 20+ years and 40+ years.
Tree Quality Grading	The trees are graded to the categories prescribed within BS5837:2012 (U, A, B & C).
Root Protection Area	Calculated as prescribed in section 4.6 of BS5837:2012, provided as an area (m^2) and a radius from the tree's stem (m).

Note: Those measurements shown in *italics* have been estimated, usually where access has restricted it being taken.

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter S1	Very Large Girth (Y / N)	Ancient, Veteran or Notable (A, V or N)	Branch Spread N	Branch Spread E	Branch Spread S	Branch Spread W	Crown Clearance (1)	Crown Clearance (2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Root Protection Area (m^2)	Root Protection Area (radius in m)
T1	Lime (*Tilia x europaea*)	S	9	160	N		2	0	2.5	2	4.0-W	3	Y	Asymmetrical canopy due to pruning works undertaken for scaffolding installation.	None required.	20+	C1	11.6	1.9
T2	Lime (*Tilia x europaea*)	S	9	150	N		2.5	0.5	2.5	2.5	3.5-W	2.5	Y	Asymmetrical canopy due to pruning works undertaken for scaffolding installation.	None required.	20+	C1	10.2	1.8
T3	Lime (*Tilia x europaea*)	S	9	150	N		2	0	0.5	2	4.0-S	3	Y	Asymmetrical canopy due to pruning works undertaken for scaffolding installation.	None required.	10+	C1	10.2	1.8
T4	Tree of Heaven (*Ailanthus altissima*)	S	11	200	N		5	6	5.5	3.5	2.5-E	2	SM	Spreading crown. Crown obscures street lamp and is touching building. Exposed and damaged surface roots. Updated June 2023 - Crown is in good condition with good leaf development. Crown over the road is 4m branch tips the main limbs are 6m over the road.	Crown lift over the road to give 5m clearance, this will be small diameter branch ends only	20+	B1	18.1	2.4
T5	Pride of India (*Koelreuteria paniculata*)	S	4	50	N		1	1	1	1	2.0-S	2	Y	Recently planted young tree.	Fell - Approved under planning application number 2022/2255/P	20+	C1	1.1	0.6
T6	Snowy Mespilus (*Amelanchier laevis*)	S	4	40	N		0.75	0.75	0.75	0.75	2.0-W	2	Y	Recently planted young tree.	Fell - Approved under planning application number 2022/2255/P	20+	C1	0.7	0.5
T7	Tree Cotoneaster (*Cotoneaster frigidus*)	S	6.5	130	N		3.5	3.5	3	3.5	2.0-N	1.5	EM	Epicormic growth at base. Low spreading crown.	Fell - Approved under planning application number 2022/2255/P	10+	C1	7.6	1.6

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter S1	Very Large Girth (Y / N)	Ancient, Veteran or Notable (A, V or N)	Branch Spread N	Branch Spread E	Branch Spread S	Branch Spread W	Crown Clearance (1)	Crown Clearance (2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Root Protection Area (m^2)	Root Protection Area (radius in m)
T8	Pride of India (*Koelreuteria paniculata*)	S	4	40	N		0.75	0.75	0.75	0.75	2.0-E	2	Y	Recently planted young tree.	Fell - Approved under planning application number 2022/2255/P	20+	C1	0.7	0.5
T9	Snowy Mespilus (*Amelanchier laevis*)	S	6.5	90	N		1.5	2	0.5	0.5	2.0-E	2.5	Y	Broken branch in crown. Old decayed fungal fruting body at stem base. Stem bark wounds.	Fell - Approved under planning application number 2022/2255/P	10+	C1	3.7	1.1
T10	Snowy Mespilus (*Amelanchier laevis*)	S	6.5	130	N		1.5	2.5	1	2.5	2.0-W	2.5	SM	Stem leaning east. Broken branches in crown to south.	Fell - Approved under planning application number 2022/2255/P	20+	C1	7.6	1.6
T11	Snowy Mespilus (*Amelanchier laevis*)	S	6.5	120	N		2	2	1.5	2.5	2.0-E	2	SM	Large stem wound from ground level to 0.3m. Epicormic growth at base.	Fell - Approved under planning application number 2022/2255/P	20+	C1	6.5	1.4
T12	Snowy Mespilus (*Amelanchier laevis*)	S	7.5	130	N		2	2	1.5	2.25	2.5-N	2.5	SM	Stem bark wound at base.	Fell - Approved under planning application number 2022/2255/P	20+	C1	7.6	1.6
T13	Pride of India (*Koelreuteria paniculata*)	S	3	50	N		0.75	0.75	0.75	0.75	2.0-N	2	Y	Recently planted young tree.	Fell - Approved under planning application number 2022/2255/P	20+	C1	1.1	0.6
T14	Pride of India (*Koelreuteria paniculata*)	S	4	50	N		0.75	1	0.75	0.75	2.0-N	1.5	Y	Recently planted young tree.	Fell - Approved under planning application number 2022/2255/P	20+	C1	1.1	0.6

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter S1	Very Large Girth (Y / N)	Ancient, Veteran or Notable (A, V or N)	Branch Spread N	Branch Spread E	Branch Spread S	Branch Spread W	Crown Clearance (1)	Crown Clearance (2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Root Protection Area (m^2)	Root Protection Area (radius in m)
G1	False Locust (*Robinia pseudoacacia*)	S	10	230	N		4.5	4.5	4.5	4.5	2.5-S	2	EM	Group of four off-site trees. Minor deadwood in crowns.	Fell - Approved under planning application number 2022/2255/P	20+	B2	23.9	2.8
T15	London Plane	S	20	1000	N		9.5	12	9.5	6	2.0-N	4	M	Street tree in good condition with good leaf development thoughout the crown. The tree has been reduced in the past and has its western crown regularly reduced to give clearance from the building west. Crown over the road has 4m clearance, this is branch tips main limbs are approximately 7m over road.	3x small diameter branch end to be reduced <25mm in size	40+	A12	452.4	12.0
T16	London Plane	S	20	920	N		11	7	5	9	7.0-W	5	M	Street tree in good condition with good leaf development thoughout the crown. The tree has been reduced in the past and has its southern crown regularly reduced to give clearance from the building south. Crown over the road has 5m clearance, this is branch tips main limbs are 7m over road. the tree has a natural lean to the north west and the stem height over the kerb is 5m. Ganoderma bracket at the base of the stem on the northern aspect of the tree.	2x small diameter branch end to be reduced <25mm in size	40+	A12	383.0	11.0
T17	London Plane	S	20	900	N		11	5	9	6	5.5-N	4	M	Street tree in good condition with good leaf development thoughout the crown. The tree has been reduced in the past and has its eastern crown regularly reduced to give clearance from the building east. Crown over the street corner to the north has 4m clearance, this is branch tips main limbs are 8m over road.	4x small diameter branch end to be reduced <25mm in size	40+	A12	366.5	10.8
T18	Ash	S	9	330	N		4	3	6	3	1.5-S	4	SM	Street tree in fair condition with good leaf development in the lower crown and reduced leaf size in the very upper crown. Crown clearance over the road is 5m. The tree has been reduced in the past.	None	10+	C2	49.3	4.0
T19	Ash	S	10	310	N		5	3	3.5	3.5	2.5-S	4	SM	Street tree in fair condition with good leaf development in the lower crown and reduced leaf size in the very upper crown. Crown clearance over the road is 4m. The tree has been reduced in the past.	2x 30mm diameter branch end to be reduced back to branch union. 2x 40mm diameter branch to be reduced back to branch	10+	C2	43.5	3.7
T20	Ash	S	7	150	N		2.5	1.5	2	2	2.0-W	4	Y	Street tree in good condition with good leaf development in the crown. Crown clearance over the road is 4m. The tree has been reduced in the past on the eastern aspect.	2x 30mm diameter branch end to be reduced back to branch union to give 5m clearance	10+	C2	10.2	1.8

Tree Ref No.	Species	Single or Multiple Stem (S or M)	Height (m)	Stem Diameter S1	Very Large Girth (Y / N)	Ancient, Veteran or Notable (A, V or N)	Branch Spread N	Branch Spread E	Branch Spread S	Branch Spread W	Crown Clearance (1)	Crown Clearance (2)	Life Stage	General Observations (structural / physiological condition)	Preliminary Management Recommendations	Estimated Remaining Contribution (years)	Tree Quality Grading	Root Protection Area (m^2)	Root Protection Area (radius in m)
T21	Ash	S	8.5	160	N		2.5	1	2	3	2.0-E	4	Y	Street tree in good condition with good leaf development in the crown. Crown clearance over the road is 4m. The tree has been reduced in the past on the eastern aspect.	3x 30mm diameter branch end to be reduced back to branch union to give 5m clearance	10+	C2	11.6	1.9
T22	London Plane	S	12	560	N		5.5	6	4	2	4.0-E	4.5	M	One of three Plane trees on Queens Square. The crown of this tree is in good condition with good leaf development thoughout, the crown has been regularly pollarded. On the north western aspect of the stem there is historic bark loss from ground level to 2.2m which hasn't.	No works required if the tree is maintained as a pollard	40+	A12	141.9	6.7
T23	London Plane	S	12	510	N		2	11	7	2	4.0-E	4	M	One of three Plane trees on Queens Square. The crown of this tree is in good condition with good leaf development thoughout. This teee has grown with a lean to the south and the crown is predominately weighted to the east and south. The crown over the road has a 3x low limbs where the main limbs over the road are 7.4m over the road. The low branch ends hang down to 4m over the road.	Crown lift the lowest branch ends to 5.5m over the road. Approximately 10 small diameter <25mm branch ends will need pruning	40+	A12	117.7	6.1
T24	London Plane	S	13	540	N		3.5	7.5	11	4.5	5.5-E	4.5	M	One of three Plane trees on Queens Square. The crown of this tree is in good condition with good leaf development thoughout. This teee has grown with a lean to the south and the crown is predominately weighted to the south. The crown over the road has a 3x low limbs where the main limbs over the road are 5.6m over the road. The low branch ends hang down to 4.5m over the road.	Crown lift the lowest branch ends to 5.5m over the road. Only 5x small diameter <25mm branch ends will need pruning	40+	A12	131.9	6.5

Appendix 4: Schedule of Tree Pruning

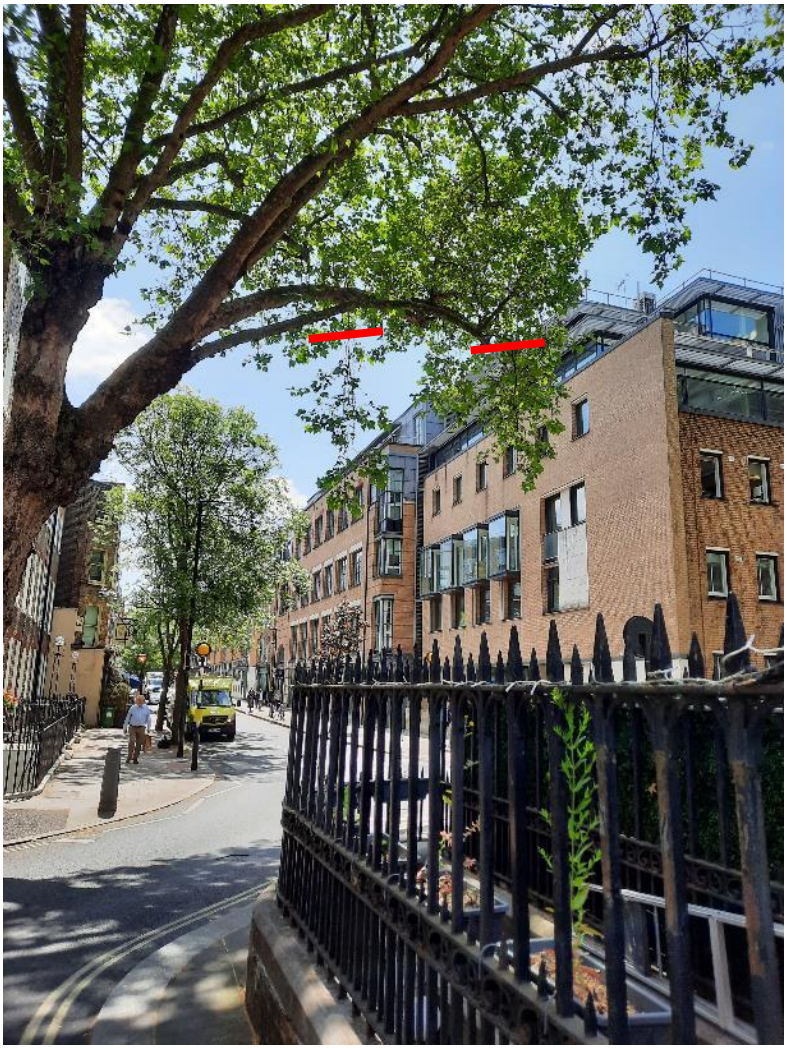
Tree number	Species	Pruning specification
T4	Tree of Heaven	Crown lift over Road to give 5m clearance, small diameter branch ends only
T15	London plane	3x small diameter branch end to be reduced <25mm in size
T16	London plane	2x small diameter branch end to be reduced <25mm in size
T17	London Plane	4x small diameter branch end to be reduced <25mm in size
T19	Ash	2x 30mm diameter branch end to be reduced back to branch union. 2x 40mm diameter branch to be reduced back to branch union to give 5m clearance
T20	Ash	2x 30mm diameter branch end to be reduced back to branch union to give 5m clearance
T21	Ash	3x 30mm diameter branch end to be reduced back to branch union to give 5m clearance
T23	London plane	Crown lift the lowest branch ends to 5.5m over the road. Approximately 10 small diameter <25mm branch ends will need pruning
T24	London plane	Crown lift the lowest branch ends to 5.5m over the road. Only 5x small diameter <25mm branch ends will need pruning

T4

Looking west along Great Ormond Street showing approximate pruning points to give 5m clearance over the road. Crown lift over the road to give 5m clearance, this will be small diameter branch ends only

T15

Looking south along Guildford Place showing the three small diameter branch ends to be reduced over the road (<25mm.in diameter)



T16

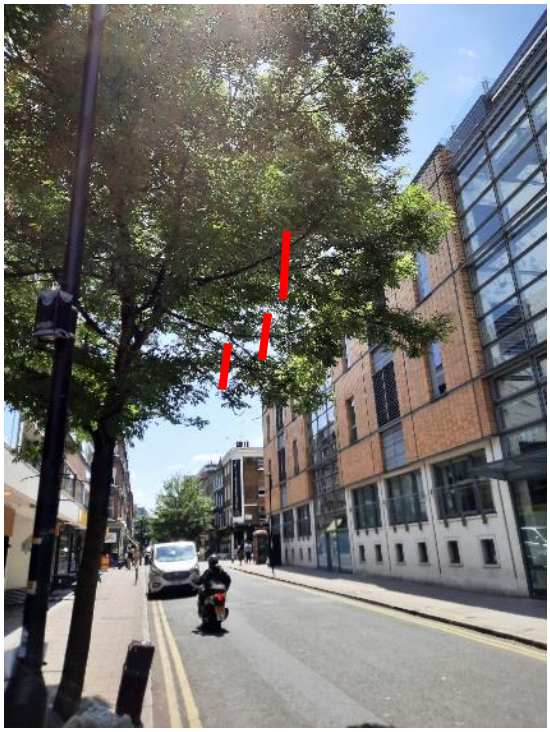
Looking south along Guildford Place showing the two small diameter branch ends to be reduced (<25mm in diameter)

T17

Looking east towards T17 and Guildford Street showing four small diameter branch ends to be reduced (<25mm in diameter)

T19
Looking south at T19 and along Guildford Place showing two small diameter limbs to be reduced (<25mm in diameter)

T20
Looking north towards T20 and along Guildford place showing two small diameter limbs to be reduced (<25mm in diameter)



T21

Looking south towards T20 and along Guildford Place showing three small diameter limbs to be reduced (<25mm in diameter)

T23

Looking south towards T23 and along Russell Square showing Approximately 10 small diameter <25mm branch ends will need pruning

T24

Looking south towards T24 and along Russell Square showing Approximately five small diameter <25mm branch ends will need pruning

Appendix 5: Site Monitoring Form

Appointed Site Arboricultural Consultant: Company: Consultant's name: Tel: Mob:	
Development site address:	Local Planning Authority (LPA):
Developer's details: Company: Developer's name: Tel:	

Stage of Development (x)

Pre-construction works		**Construction works**		**Post-construction works**			
Tree works	☐	Demolition	☐	Rectifying tree damage/pruning	☐		
Protective fencing/tape	☐	Grading/muck away	☐	Hard landscaping/walls/drives	☐		
Fencing signage	☐	Placing portacabin	☐	Removal of protective fencing etc	☐		
Ground protection	☐	Excavation/services	☐	Soft landscaping	☐		
Temporary haul road	☐	Construction work	☐	Special surfacing	☐	Tree planting	☐

Findings:		
Action Taken:		
Further action required/recommendations:		
Comments		
Date of site visit:		Date of next visit:

Date sent to Local Planning Case Officer _____

Appendix 6: Installation of Stem Protection

Example of stem protection for T4. Hardwood plywood sheet attached to wooden frame and fixed to floor using ground pins or similar.