

GHA Trees
5 South Drive
High Wycombe
Bucks
HP13 6JU



Glen Harding MSc (Forestry), MA ArborA
t: 07884 056025
e: info@ghatrees.co.uk
www.ghatrees.co.uk

**BS5837:2012 TREE SURVEY AND
ARBORICULTURAL IMPACT ASSESSMENT:
99 - 103 Kingsway House, London, WC2B 6QX**

Dated: 3rd June 2024

Our reference: GHA/DS/160229:24

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Arboricultural Impact Assessment

Location: 99 - 103 Kingsway House, London, WC2B 6QX
Our reference: GHA/DS/160229:24
Client: gms
Dated: 3rd June 2024
Prepared by: Glen Harding MICFor, MSc (Forestry), MArborA
Date of Inspection: 23rd May 2024

Instructions

Issued by – gms

TERMS OF REFERENCE – GHA Trees were instructed to survey the subject trees within and adjacent to 99 - 103 Kingsway House, London, in order to assess their general condition and to provide a planning integration statement for the indicative proposed development that safeguards the long term wellbeing of the retained trees in a sustainable manner.

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Executive Summary

The proposal for the site is to renovate the existing building work that will include the addition of a new upper level. The proposed scheme does not require the removal of any trees; therefore, the landscape character of the site will be unaffected by the proposal. Some minor pruning is proposed to T2, a nearby street tree to allow for scaffolding to be installed. This work is assessed to be minor and will not adversely impact the health or amenity value of the subject tree and is also work that has been undertaken in the past to this tree as the crown is in contact with the building. The retained trees require protection in accordance with industry best practice and BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations, in order to ensure their longevity.

Documents Supplied

The client supplied the following documents:

- Existing layout plans
- Proposed layout plans

Scope of Survey

- 1.1 The survey is concerned with the arboricultural aspects of the site only.
- 1.2 The planning status of the subject property was not investigated in detail.
- 1.3 A qualified Arboriculturist undertook the report and site visit and the contents of this report are based on this. Whilst reference may be made to built structure or soils, these are only opinions and confirmation should be obtained from a qualified expert as required.
- 1.4 No discussions took place between the surveyor and any other party.
- 1.5 The trees were inspected on the basis of the Visual Tree Assessment method expounded by Mattheck and Breleor (The body language of tree, DoE booklet Research for Amenity Trees No. 4, 1994)
- 1.6 The survey was undertaken in accord with British Standard 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.
- 1.7 Tree works will be required to be in accord with British Standard 3998 – 2010 (Tree Work - Recommendations).
- 1.8 The client's attention is drawn to the responsibilities under the Wildlife and Countryside Act (1981).

Survey Method

- 2.1 The survey was conducted from ground level with the aid of binoculars if needed.
- 2.2 No tissue samples were taken nor was any internal investigation of the subject trees undertaken.
- 2.3 No soil samples were taken.
- 2.4 The height of each subject tree was estimated using a clinometer and recorded to the nearest half metre.

- 2.5 The stem diameter for each tree was measured in line with the requirements set out in BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations.
- 2.6 The crown spreads were measured with an electronic distometer and recorded to the nearest half metre. Where the crown radius was notably different in any direction this has been noted on the Plan (appendix A) and within the tree table (Appendix B). The crowns of those trees that are proposed for removal, or trees where the crown spread is deemed insignificant in relation to the proposed development are not always shown on the appended plan; however their stem locations are marked for reference.
- 2.7 The Root Protection Area (RPA) for each tree is included in the tree table, both as an area, and as the radius of a circle.
- 2.8 The crown clearance was measured using a clinometer and recorded to the nearest half metre. Where it is significantly lower in one direction, this is noted within the tree table at appendix B.
- 2.9 All of the trees that were inspected during the site visit are detailed on the plan at Appendix A; this plan was produced in colour and **MUST** only be scanned or reproduced in colour. The trees on this plan are categorised and shown in the following format:

COLOUR CODING AND RATING OF TREES:

Category A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. Colour = light **green** crown outline on plan.

Category B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. Colour = mid **blue** crown outline on plan.

Category C – Trees of low quality with an estimated remaining life expectancy of at least 10 to 20 years, or young trees with a stem diameter below 150mm. Colour = uncoloured crown outline on plan.

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. Colour = **red** crown outline on plan.

All references to tree rating are made in accordance with BS 5837: 2012 – Trees in relation to design, demolition and construction – recommendations’, Table 1.

The Site

3.1 The site is located in Central London.

The Subject Trees

4.1 The details of the subject trees are set out in the Schedule at Appendix B.

4.2 Of the three individual trees surveyed, two have been assessed as BS 5837 category A, with the remaining tree being assessed as BS 5837 category C.

Category A	2 trees
Category C	1 tree

The Proposal

5.1 The proposal for the site is to renovate the existing building work that will include the addition of a new upper level.

5.2 The proposed location of the above structures can be seen on the appended plan.

Arboricultural Impact Assessment

PROPOSED TREE REMOVAL / RETENTION:

- 6.1 The proposed site layout and all of its associated structures allows for the healthy retention of all of the trees; therefore, the arboricultural landscape character of the site will be retained.

TREE PRUNING TO ACCOMMODATE THE PROPOSAL OR ACCESS TO THE SITE

- 6.2 Some minor pruning is proposed to T2, a nearby street tree, to allow for scaffolding to be installed. This work is assessed to be minor and will not adversely impact the health or amenity value of the subject tree and is also work that has been undertaken in the past to this tree as the crown is in contact with the building (see photo below).

Below: T2 past pruning points



- 6.3 The implementation of the proposal does not lead to the requirement to prune any of the other trees.

ASSESSMENT OF RETAINED TREES ROOT PROTECTION AREAS

- 6.4 Section 4.6.3 of BS 5837: 2012 states that the Root Protection Area (RPA) of each tree should be assessed by an arboriculturalist considering the likely morphology

and disposition of the roots, when known to be influenced by past or existing site conditions.

- 6.5 The RPAs have been amended to take account of the existing buildings and road; these adjustments can be seen on the appended plan.

ASSESSED IMPACT ON RPAS BY PROPOSED STRUCTURES

- 6.6 The proposed works are all within the outline of the existing structure, therefore the nearby trees pose no below ground constraints on the proposed site works.

Post Development Pressure

FUTURE TREE AND STRUCTURE RELATIONSHIPS

- 7.1 The retained trees are at a satisfactory distance from the building and highly unlikely to give rise to any inconvenience.
- 7.2 Some minor lateral pruning of the retained trees and shrubs may be required in the medium term; however, any such work would not have a significant impact on the health or amenity value of these trees and is work that will be ongoing regardless of the proposal.

Tree Protection Measures and Preliminary Method Statement for Development Works

- 8.1 TREE WORK
T2 will be protected using a 'tree box' comprising wooden hoarding to a height of 2.4m as per the photo below.



Above: tree box

8.2 MIXING OF CONCRETE

All mixing of cement / concrete **MUST** be undertaken outside of the RPA of all of the retained trees.

8.3 USE CRANES, RIGS AND BOOMS

Precautionary measures **MUST** be observed to avoid contact of any retained trees when manoeuvring cranes rigs or booms into position.

8.4 ON SITE SUPERVISION

Regular site supervision is essential to ensure all potentially damaging activities near to trees are properly supervised. A pre start site meeting **MUST** occur to ensure all parties are aware of their responsibilities relating to tree protection on site; this **MUST** include a site induction for key personnel.

Key personnel:

Name	Position	Contact number / email:
Glen Harding	Retained arboriculturalist	07884 056 025 Or info@ghatrees.co.uk
TBC	Local authority Arboricultural Officer	TBC
TBC	Site manager	TBC

After this pre start meeting, day-to-day responsibility for tree protection will be devolved to the site manager who will make contact with the retained arboriculturalist as needed.

8.5 OTHER TREE PROTECTION PRECAUTIONS

- **NO** level alterations will occur within the RPA of any tree to be retained.
- **NO** fires lit on site within 20 metres of any tree to be retained.
- **NO** fuels, oils or substances which will be damaging to the tree shall be spilled or poured on site.
- **NO** storage of any materials within the root protection zone.

8.6 DISMANTLING PROTECTIVE BARRIERS

Protective barriers must only be completely removed when all machinery, and equipment has left site.

Conclusion

9.1 In conclusion, the principal arboricultural features within the site can be retained and adequately protected during development activities.

9.2 Subject to precautionary measures as detailed above, the proposal will not be injurious to trees to be retained.

Recommendations

- 10.1 Site supervision – An individual e.g. the Site Agent, must be nominated to be responsible for all arboricultural matters on site. This person must:
- a. Be present on the site the majority of the time.
 - b. Be aware of the arboricultural responsibilities.
 - c. Have the authority to stop any work that is, or has the potential to cause harm to any tree.
 - d. Be responsible for ensuring that all site personnel are aware of their responsibilities towards trees on site and the consequences of the failure to observe those responsibilities.
 - e. Make immediate contact with the local authority and / or retained arboriculturalist in the event of any related tree problems occurring whether actual or potential.
- 10.2 It is recommended, that to ensure a commitment from all parties to the healthy retention of the trees, that details are passed by the architect or agent to any contractors working on site, so that the practical aspects of the above precautions are included in their method statements, and financial provision made for these.

3rd June 2024

Signed:



Glen Harding MICFor, MSc (Forestry), MArborA
For and on behalf of GHA Trees

Appendix A
TREE PLAN
(see separate PDF)

Appendix B

TREE TABLE

Tree Number	Tree Name (species)	Ht (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	N (m)	E (m)	S (m)	W (m)	Age Class	Clearance (m)	Estimated life expectancy	BS Category	Comments / Recommendations
T1	London plane	7	70	1	0.84	2.5	2	0.5	1.5	MA	2 north	10-20	C1	Suppressed tree of poor form.
T2	London plane	18	670	1	8.04	8	10	9.5	5.2	M	8 west	40+	A1 and A2	No significant / notable defects observed during inspection. Pruned away from building in past. Recommend: prune on building side to give 2m clearance for scaffolding.
T3	London plane	23	730	1	8.76	6	6	6	4	M	9 west	40+	A1 and A2	No significant / notable defects observed during inspection. Pruned away from building in past.

KEY :

Tree No: (T= individual tree, G= group of trees, W= woodland)
Age class: Young (Y), Middle aged (MA), Mature (M), Over mature (OM),
Veteran (V)
Height (Ht): Measured in metres +/- 1m

