Arboricultural consultants, providing surveys and advice for development planning, safety and law

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4th December 2018

Ref:ha/aiams1/16pakenhamst

Your Ref:

Mr R Alba Jak Studio 39-40 Warple Way, London W3 0RG

Dear Mr Alba



Further to your instructions I have inspected the trees at the above site and I am pleased to provide my arboricultural report, which includes advice and recommendations in relation to the above project. This report is designed to be used in conjunction with the planning application.

I hope that the attached is clear and helpful but if I can be of any further assistance, please do not hesitate to contact me.

Yours sincerely



Hal Appleyard Dip. Arb. (RFS), F.Arbor.A, MICFor. RCArborA Arboricultural Association Registered Consultant





enc.

cc Mr M Wilcox



# Trees, Construction and Tree Protection – An Impact Assessment and Recommendations

Site: 16 Pakenham Street, London WC1X 0LG

Date: 4th December 2018

Prepared by: Hal Appleyard Dip. Arb. (RFS), F.Arbor.A, MICFor. RCArborA

ACS Ref: aiams1/16pakenhamst/2018

LPA Ref:

## Appendices:

BS tree survey data

- 2. Tree protection plan
- 3. Manual dig and root assessment
- 4. Site monitoring record

Introduction

Trees are generally regarded as positive amenity assets, which are attractive to look at and which contribute to the landscape, which we all enjoy. Construction near to trees can result in irrevocable harm by causing direct damage to the roots or branches or by creating a poor growing environment. In planning law in the UK, trees (with some exceptions) are regarded as a 'material consideration' and when planning applications are submitted for approval, the potential impact upon trees must be assessed and addressed by the local planning authority. In so doing, it may ask for the applicant to submit details of the trees, an assessment of the impact of the construction upon the trees and the methods of tree protection proposed during and following construction. To this end, a series of questions are posed and to which the answers provided, cover the required information.

## 1.0 What does this report do?

- 1.1 This report assesses the quality of the trees within a distance, which could be potentially influenced by the proposed construction of a new rear extension and sets out methods for tree protection.
- 1.2 The report is based upon the information obtained by my observations of the site and the relevant trees carried out on in 23<sup>rd</sup> November 2018.

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#### 2.0 What and where is the site?

2.1 The site comprises a three-storey town house with modest courtyard garden at the rear. A lightwell exists at the front.

Fig.1 16 Pakenham Street (front) and rear - right





2.2 The house is adjoined to the north and south by similar, residential terraced buildings already with rear extensions having been constructed. Brick boundary walls separate the rear gardens. Steps lead up to the terraced garden area, which is paved, from lower ground floor level.

## 3.0 Which trees are relevant and what is their condition?

- 3.1 The British Standard BS 5837:2012 'Trees in relation to design, demolition and construction Recommendations' (the BS) provides the framework for assessing trees relevant to proposed development/construction. The details of the relevant trees are provided in the tree survey schedule at **Appendix 1**. The position of the trees is provided upon the tree protection plan (TPP) included here at **Appendix 2**.
- 3.2 In this case, there are no trees within the confines of the subject property save for a small, shrubby Fig tree (T2), which has been trained against the boundary walls (east and south). This tree is negligible in the context of the landscape and is readily replaced with alternative planting as necessary. It can be re-coppiced (cut back to the stem base and allowed to re-grow or removed and replaced.
- 3.3 A mature Bay Laurel (T1) grows within the rear neighbouring garden of No 15. The tree is typically dense, with evergreen foliage growing out over the southern boundary wall of the site. It is expected that roots of this tree will seldom pass or break through the brick work or concrete foundations of boundary walls. It is possible that some roots have extended beyond the boundary into the site

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however by growing deeper than the footings. The number of such roots passing into the site will be highly reduced in comparison to those which grow within the host garden.

3.4 With reference to the literature and from my experience, Bay Laurel species are very tolerant to pruning and it would follow that an amount of root pruning could be tolerated, provided that roots are pruned professionally and that some soil ameliorates are used to encourage a fertile rooting environment.

# 4.0 What is proposed and what will this project mean to the trees and landscape?

- 4.1 It is proposed to construct a rear projection and extend the lower ground level and modify the rear garden terrace. In order to achieve this, part of the southern party wall will need to be rebuilt and supported.
- 4.2 This includes the re-coppicing (cutting back to the main stem) or removal of the Fig and the care of the neighbouring Bay Laurel through careful excavations and root assessment and pruning where necessary. This work will be overseen and controlled by an appointed arboriculturist who can provide advice upon root treatment if this is needed.
- 4.3 The visual impact of this will be negligible as the majority of roots important to tree growth and support will be retained within the host garden adjacent to the site. The removal of the Fig will go unnoticed.
- 4.4 Provided that the recommended precautions, which are explained more fully below, are taken during the excavations and construction, I am confident that the impact upon the neighbouring Bay Laurel tree will be neutral. Table 1 below provides my assessment of the impact and implications upon the trees and landscape.

Table 1 Summary of Implications of Construction on Trees\*

Tree ldent.*	Landscape Contribution	Implications /Impact	Mitigation measures	Impact Assessment**
1 Bay Laurel	Medium	Construction within 10% of RPA	Supervised, manual dig and root assessment     Professional pruning as necessary	Neutral
2 Fig	Low	Replace/coppice for construction	Carry out professional tree works	Neutral to Positive

<sup>\*</sup> Main trees selected for comment included above. Refer to previous notes on other trees.

<sup>\*\*</sup> Negative – adverse impact upon tree(s) and landscape; Neutral – no material impact (negative or positive); Positive – improvement (potential) to tree quality and landscape



#### 5.0 Is there a need to carry out any tree work?

- 5.1 Tree maintenance is often sensible because it can identify obscured defects, reduce the risk of tree failure and improve tree quality and appearance. In addition, pruning trees is often appropriate, particularly in the urban setting, where trees impact upon structures, restrict desired activities, cast shade or generally overhang gardens or adjacent land.
- 5.2 I have set out some recommended tree works in the Table 2 below, which I believe are sensible in relation to both general tree maintenance and to facilitate the proposed construction. This work is best carried out before any construction begins.

Table 2 – Recommended/Proposed Tree Works

Tree Works (Spec.)	Tree Nos	Visual Landscape Impact of Works*	Space Available for Replacement Planting(Y/N)	Comments		
Manual dig and root assessment T1 and pruning (Sp8)		None	-	It is possible that a small number of roots have grown under existing boundary wall footings. Such roots will be assessed and pruned back professionally		
Re-coppice (Sp9)	T2	None		Prune back growth to stems base and re-train		
Total		None				

<sup>\*</sup>This is a preliminary visual appraisal based upon the opinion of the author having inspected the trees in the context of their current surroundings. – None (no change or beneficial impact) Negligible or indiscernible difference to treed landscape; Low – Noticeable but mitigated by retention of other landscape trees and features; Medium – Obvious but temporary alteration to the treed landscape; High – Obvious and permanent alteration to the landscape.

Visual receptors include the public or community at large, residents, visitors or other groups of viewers together with the visual amenity of potentially affected people.

## Specifications for recommended tree works:

### General

All work is to conform to BS 3998:2010 'Tree work – Recommendations' and with 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, equipment and PPE. All works and processes are to comply with all relevant Planning, Wildlife, Environmental, Conservation and Health and Safety legislation.

Sp8. Root pruning is to be carried out or supervised by a competent person (arboricultural contractor). Only sharp and specific pruning tools will be used for the root pruning exercise. No © Dec. 2018 No unauthorised reproduction of any part of this report is permitted.



roots are to be pruned if it is considered that their loss (or shortening) will adversely impact upon tree condition or anchorage, immediately or in the future. Any exposed roots will be covered with a material to prevent desiccation. All exposed cut root surfaces will be made as small as possible. If possible, roots will be pruned back to side shoot.

Sp9. Coppicing refers to the practice of cutting the stems to a point above ground level to create a 'coppice stool'. The process is normally carried out on a cyclical basis and to tree species, which respond to this type of management e.g. Sweet Chestnut, Hazel, Ash or Hornbeam.

## 6.0 What tree protection measures will be taken during construction?

- 6.1 The appointed arboricultural supervisor will oversee the manual excavations in the location set out on the TPP. The excavations should be at least 1000mm deep and all roots in excess of 20mm are to be retained (cleaned), ready for inspection. Following assessment by the arborist, any roots which cannot be retained are to be pruned using proper pruning tools (e.g. secateurs, hand saws or long-handled pruners). The cut surface must be made as cleanly as possible and to expose no more wood tissue than necessary. The roots are to be pruned back to the soil surface and covered using dampened sacking or similar.
- 6.2 In order to ensure that the tree protection measures are implemented effectively, a site monitoring exercise will be undertaken to confirm:
  - i) The manual dig process and wall deconstruction
  - ii) The root exposure and assessment process
  - iii) Continue to monitor the trees and their protection

An example of a site record (tree protection) is provided at **Appendix 4**. In this case, the form will be used as confirmation that all practical precautions have been undertaken in accordance with this method statement.

- 6.3 A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.
- 6.4 The details pertaining to tree protection as set out in this method statement, specifically include:
  - i)lines of communication and incident reporting:
  - ii)the root assessment process;
  - iii) root pruning as necessary,

are to be explained to the Site Agent at the pre-commencement site meeting. It will be the responsibility of the Site Agent to ensure that all personnel working on site are aware to the tree protection measures processes. A copy of this method statement is to be retained on site for the duration of the build process together with a scaled, colour copy of the Tree Protection Plan.



- 6.5 Key times for site supervision include:
  - 1. Deconstruction of party walls
  - 2. Manual dig exercise
  - 3. Root exposure and pruning
  - 4. Works within RPAs of any retained tree (on or off site)
  - 5. Hard landscaping
- 6.7 Effective site monitoring will be undertaken from the outset of the project and at agreed intervals thereafter. The frequency of monitoring may well decrease following the proper installation of all tree protection measures. Below is a recommended programme of arboricultural supervision. (This programme may alter dependent upon site circumstances or by agreement.)
- 6.8 The process for recording the tree protection measures will involve:
  - i) Site Agent to contact Arboricultural Supervisor with a minimum of 5 days' notice of any site work commencement.
  - ii) Arboricultural Supervisor to monitor site to agree tree protection fencing iii) When all tree protection is installed in accordance with the tree protection plan, the Arboricultural Supervisor is to arrange with LPA tree officer and relevant contractors the pre-commencement site meeting in order to agree the tree protection and subsequent works within RPAs of retained trees and importantly the lines of communication between the on-site contractors, the Arboricultural Supervisor and the LPA tree officer. and incident reporting,
  - iv)Arboricultural Supervisor to record all site visits and distribute reports to LPA tree officer and contractors for their records
  - v)Subsequent to completion, Arboricultural Supervisor to sign-off and complete. vi) Any incidents resulting in potential tree damage are to be reported in line with the 'Incident Reporting Flow Chart in Appendix 6.
- 6.9 The frequency of tree protection monitoring depends upon the nature of the project. In this case it will be appropriate for the SA to organise with the AS monitoring visits to be twice in the initial 28 days from commencement and thereafter once every 28 days for two months and then by agreement.



Table 3 Preliminary sequence of actions and site supervision schedule (this may be subject to alterations)

alterations	')				
Stage	Arboricultural Supervisor (AS) (Required – Y/N)		Notes		
1	Pre-commencement meeting*	Y	Site Agent(SA) and demolition contractor to attend		
2	Party wall deconstruction	Y	SA to advise AS prior to commencement		
3	Manual dig exercise and root exposure	Y	PRIOR to all ground works		
4	Construction	Y	At agreed intervals		
5	Landscaping	Y	Brief landscape company		

\*Pre-commencement means i) before any works including tree felling or pruning and ii) before any ground works or demolition commences and upon completion of the initial installation of the tree protection, including ground protection.

NOTE: THE APPOINTED ARBORICULTURAL SUPERVISOR IS TO BE CONSULTED BEFORE ANY WORK, EITHER SCHEDULED OR UNSCHEDULED, <u>IS CONSIDERED</u> WITHIN THE EXCLUSION ZONE OR ROOT PROTECTION AREAS OF ANY RETAINED TREE. FAILURE TO DO SO MAY LEAD TO LPA ENFORCEMENT ACTION.

## 7.0 Who is involved and who to contact?

7.1 Below is a table of relevant contacts, which is to be completed before commencement.

Table 4 - Contact List (to be completed **PRIOR** to commencement)

Interested Party	Name	Company/LPA	Contact Number(s)	Role
Main Contractor	ТВА			Financial and legal; appointment of consultants
Site Agent	ТВА			Day to day site management; liaison with Consultants
Arb. Supervisor	TBA			Tree protection & management
LPA Tree Officer	Jon Ryan	L B Islington		Tree protection enforcement
Consulting Engineers				Technical design
Architects	R Alba	Jak Studio		Design

TBA - to be advised



#### 8.0 Will soft landscaping (e.g. planting/turfing) affect the retained trees?

- 8.1 New landscaping will mostly be beneficial to the existing site and trees. However, the risk of damaging trees during the final landscaping works can be avoided by adhering to the following:
- Advise arboricultural supervisor of intended time frame of landscape work in advance of commencement.
- Re-locate existing tree protection fencing/ground protection to enable landscape work to proceed.
- 3. With bio-degradable spray paint or site pins with plastic tape, mark out the position of the relevant tree root protection areas (RPA) as per the tree protection plan.
- Within the RPAs, avoid using any mechanical tools or vehicles (e.g. tracked or wheeled machinery).
- 5. Spread any mulch or top soil manually, with the use of wheel barrows and hand tools. It will be acceptable to use of the back actor of a tracked excavator to spread piled top soil or mulch into the RPAs of protected trees provided the bucket does not come in contact with the ground and that the power unit is positioned outside of the RPAs at all times.
- 6. Any planting pits are to be excavated manually within the RPAs of any retained trees.
- Multiple passes within the RPAs along one route, pedestrian and with wheel barrows will
  require some ground protection to be installed prior to working. Ground protection can be
  scaffold boards over wood chip for example.
- A record of the landscape working method is to be made and provided to the Council for their file.
- Hard landscaping features will be constructed under arboricultural supervision within the RPA of retained trees and will avoid, where possible, the re-grading of soil.

## 9.0 Final points to note.

- 9.1 No fires will be lit on site.
- 9.2 No materials, equipment or debris will be stored within the fenced areas unless agreed with the arboricultural supervisor.
- 9.3 Areas for mixing are to be located beyond RPAs of trees and contained to prevent leaching into the soil.
- 9.4 A copy of this report and the Tree Protection Plan is to remain on site at all times.

Note 1. RPA to be assessed by an arboriculturalist. BS 5837:2012 'Trees in Relation to Construction - Recommendations' paras. 4.6.1-3.

Re-building of existing structures located within the protection distances, such as retaining walls, may require soil excavation and root treatment.

Note 2. The Circular 02/2005 gives guidance on the temporary stop notice provisions in Part 4 of the Planning and Compulsory Purchase Act 2004, which inserted sections 171E to 171H to the Town and Country Planning Act 1990.

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Please note that all relevant planning approvals and approval to planning conditions must first have been issued by the relevant planning authority in order for this report to become effective. We strongly advise that you consult your planning advisors <u>before implementing any recommendations</u> set out in this report.

Hal Appleyard Dated:4<sup>th</sup> December 2018





## **Tree Survey Schedule**

Page 1



Site:16 Pakenham Street, London WC1X 0LG

Date: 23rd November 2018

ACS (Trees) Consulting E:info@acstrees.co.uk

Surveyor:H. Appleyard Ref:ts1/16pakenhamst

Tree No.	English Name	Height		Ground Clearance	Age Class		Protection Multiplier		Growth Vitality	Structural Condition	Landscape Contribution				Observations
T1	Bay Laurel	8	3 2 4 3	3/N3	Mature	300e	12	3.6	Normal	Good	Low	С	1,2	20-40	Off-site tree; twin from 1.7m Over hanging branches; dense canopy Garden ornamental
T2	Fig	3	1 3 4 1	0	Middle Aged	100	12	1.2	Normal	Good	Low	С	1	20-40	Shrubby tree trained against the wall

- Notes:

  1. Height describes the approximate height of the tree in meters from ground level.

  2. The Crown Spread refers to the crown radius in meters from the stem centre and is shown above on each of the four compass points (i.e. N. E., S. W) clockwise.

  3. Ground Clearance is the height in meters of crown clearance above adjacent ground level together with the height and direction of the lowest branch

  4. Stem Diameter is the diameter of the stem measured in millimetres at 1.5m from ground level. The diameter may be estimated (e), where access is restricted. An average (a) may be taken for tree groups. A full inspection is always recommended.

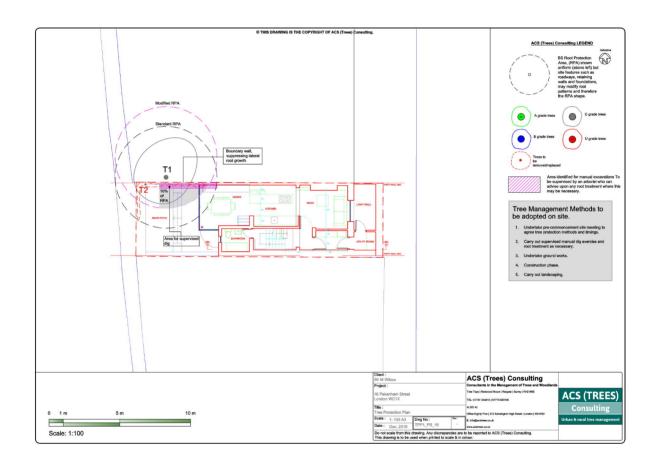
  5. Protection Multiplier is 12 for single-stemmed trees; for multi-stemmed a cross-sectional area is calculated to derive the DBH, which in turn is multiplied by 12.

- 6. Protection Radius is a radial distance measured from the trunk centre and is used to calculate the BS RPA.
  7. Growth Vitality Normal growth, Moderate (below normal), Poor (sparse/weak), Dead (dead or dying tree).
  8. Structural Condition Good (no or only minor defects), Fair (remediable defects), Poor Major defects present or suspected.
  9. Landscape Contribution High (prominent landscape feature), Medium (visible in landscape), Low (sectudediamong other trees).
  10. B.S. Cat. refers to British Standard S537:2012 Table 1 category and refers to tree/group quality and value; 'A' High, 'B' Moderate, 'C' Low, 'U' Remove or very poor quality.
  11. Sub Cat refers to the retention criteria values where 1 is Arboricultural, 2 is Landscape and 3 is Cultural including Conservation/ecological, historic and commemorative.
  12. Useful Life is the tree's estimated remaining effective contribution in years.

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Table 1	Cascade chart for tree quality assessment
contacting	BSI Customer Services for hard copies only: Tel: +44 (0)20 8996 9001, Email: cservices@bsigroup.com.

Category and definition	Criteria (including subcategories where appropriate)								
Trees unsuitable for retention	(see Note)	-							
Category U Those in such a condition that they cannot realistically	<ul> <li>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)</li> </ul>								
be retained as living trees in	<ul> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> </ul>								
the context of the current land use for longer than 10 years	<ul> <li>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</li> </ul>								
	NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.								
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation						
Trees to be considered for rete	ention								
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 that might be included in	Trees present in numbers, usually growing	Trees with material	See Table 2					
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	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.	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	conservation or other cultural value						
Category C	Unremarkable trees of very limited	Trees present in groups or woodlands, but	Trees with no material	See Table 2					
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	merit or such impaired condition that they do not qualify in higher categories	without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	conservation or other cultural value						





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## Root exposure, pruning and protection measures during construction





Mark out area to be excavated by manually and set ground protection at the side of the excavation area





Expose the roots manually and with compressed air as necessary





Undertake root pruning (<25mmØ) using sharp pruning tools, avoiding tears or splits and making the pruning cut as small as possible. Roots in excess of 25mmØ may be pruned following arboricultural advice. Line the exposed soil with an impervious liner before protecting any retained roots.



## Contd. Root exposure, pruning and protection measures during construction





Identify the roots for retention and prepare a void-former (root protection 'sleeve'.





Wrap the identified roots in hessian before fitting the void-former and sealing with duct tape or similar.



Back-fill the construction area (e.g. footing or base slab) following root protection.

ACS (Trees) Consulting

T: 020 8687 1214

# Arboricultural Site Supervision

ACS

CONSULTING

Site: Project Site Address/Name
Inspected By: Arboricultural Supervisor (AS)

Client: Client

Site Agent's Name (SA)

Date of Inspection:
Time of Inspection:

24/02/2017

8:15:00

## **Tree Protective Fencing**

Tree protection in correct location

#### Comments/Action

Ground protection - temporary concrete and existing paving

## **Agreed Construction Exclusion Zone**

No debris within construction exclusion zone



Page 1

Robust hoarding and temporary concrete ground protection

## Comments/Action

## **Amendments to Documentation Required**

No amendments required

Comments/Action



Tree protection Hoarding and ground protection over sharp sand.

## **Remedial Works**

## **General Comments**

- 1. Tree protection in position and effective
- 2. Position of site huts used as tree protection for T7 and T10
- 3. Temporary concrete used for ground protection for T10
- 4. Hoarding style tree and ground protection effective and in position

Next Inspection April 2017

