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Arboricultural Implications Report

Proposed re-development at

Leigh House, 73 South End Road

London



March 2024

Ref. SJA air 23206-01

SUMMARY

S1. On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of negligible magnitude, as defined according to the categories set out in **Table 1** of this report.

S2. Our assessment of the impacts of the proposals on the existing trees concludes that no category 'A' or 'B' trees, and no trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the property, are to be removed. The proposed removal of eight small individual trees within a secluded rear garden will represent no alteration to the main arboricultural features of the property, only a minor alteration to the overall arboricultural character of the property and will not have an adverse impact on the arboricultural character and appearance of the local landscape or the conservation area.

S3. The proposed pruning is minor in extent, will not detract from the health or appearance of these trees, and complies with current British Standards.

S4. The incursion into the Root Protection Area of one tree, evergreen magnolia (no. 17) to be retained is likely to be tolerated by the tree, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 1**, no significant or long-term damage to its root system or rooting environment will occur.

S5. The proposed outbuilding will not be shaded by retained trees to the extent that this will interfere with its reasonable use or enjoyment by incoming occupiers, which might otherwise lead to pressure on the Local Planning Authority to permit felling or severe pruning that it could not reasonably resist.

S6. As the proposed development will not result in the removal of trees which are of significant amenity landscape value, and contribute to the character and appearance of a conservation area it complies with Policies A3 and D2 of the London Borough of Camden Council Local Plan (2017).

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1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees has been instructed by Upspace Construction Services Ltd. to visit Leigh House, 73 South End Road and to survey the trees growing on or immediately adjacent to this property.

1.1.2. We are further asked to identify which trees are worthy of retention within a proposed re-development of the property; to assess the implications of the development proposals on these specimens, and to advise how they should be protected from unacceptable damage during construction.

1.2. Scope of report

1.2.1. This report and its appendices reflect the scope of our instructions, as set out above. It is intended to accompany a planning application to be submitted to London Borough of Camden Council (“the LPA”) and complies with local validation requirements.

1.2.2. It complies also with the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations* (‘BS 5837’). However, the British Standard is not a Code of Practice that consists of written rules outlining how actions or decision must be taken and it “should not be quoted as if it were a specification¹”; it is a set of recommendations intended to “assist decision-making with regard to existing and proposed trees in the context of design, demolition and construction²”. It doesn’t form part of planning policy; but it is a material consideration to which weight is likely to be given.

1.2.3. The proposed development comprises the extension and internal alterations to ground floor/lower ground floor flat, new outbuilding and associated works.

1.2.4. This report summarises and sets out the main conclusions of the baseline data

¹ British Standard BS 5837:2012. *Trees in relation to design, demolition and construction – Recommendations*; Foreword. The British Standards Institution.

² Ibid., p.1, Introduction.

collected during the tree survey and identifies those trees, whose removal could result in a significant adverse impact on the character or appearance of the local area (Section 3). It then details and assesses the impacts of the proposed development on individual trees, including those to be removed (Section 4), those to be pruned (Section 5), those which might incur root damage that might threaten their viability (Section 6) and those that might become under pressure for removal after occupation because of shading or apprehension (Section 7). A summary and conclusions, with regard to local planning policy, are presented in Section 8.

1.3. Site inspection

1.3.1. A site visit and tree inspection were undertaken by Jesse Tree of SJAtrees on 27th of April 2023. Weather conditions at the time were dry but overcast. Deciduous trees were in partial leaf.

1.4. Site description

1.4.1. The property is 711m² in size and is located on the west side of South End Road, forming the property's eastern boundary, opposite East Heath and Hampstead Pond No.1, as shown at **Figure 1** below. The north, south and west boundaries adjoin rear amenity gardens and residential properties on both South End Road and Keats Grove.



Figure 1: Site location shown on AutoCAD geolocation image

1.4.2. The site is on ground that gently rises by up to 2m from its southwestern corner to its northeastern corner adjacent to South End Road, and currently comprises a semi-detached two storey dwelling with associated rear secluded garden.

1.5. Soil type

1.5.1. The British Geological Survey Solid and Drift Geology map of the area indicates the property overlies a bedrock of London clay. No superficial deposit information is provided.

1.5.2. The class of soil in this area is recorded on the Soilscape (England) maps on the Department for Environment, Food & Rural Affairs ('Defra') Magic website as a slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soil with impeded drainage.

1.5.3. We are not aware of a site investigation or soil analysis having been undertaken; but the class of soil and the indications of the British Geological Survey map suggest that trees may be deep-rooted and that the soil is likely to be highly susceptible to compaction.

1.6. Statutory controls

1.6.1. At the time of writing none of these trees are covered by a tree preservation order (TPO).

1.6.2. The property is within the boundaries of the Hampstead Conservation Area. The Character Appraisal for this area mentions trees throughout the document for specific areas, but for South End Road, does not mention trees specifically. However, within the conservation area guidelines it does mention at H11, page 60, that “**Rear gardens and backlands contribute to the townscape of the Conservation Area and provide a significant amenity to residents and a habitat for wildlife. Development within gardens is likely to be unacceptable.**”, but also at guideline H45, page 64, it mentions “**All trees which contribute to the character or appearance of the Conservation Area should be retained and protected...**”.

1.7. Non-statutory designations

1.7.1. There are no woodlands within or abutting the property that are classified as 'Ancient'. Ancient woodland is defined as "any area that's been wooded continuously since at least 1600 AD" and is considered an important and irreplaceable habitat.

1.7.2. There are no trees within or abutting the property that can be classified as 'Ancient' or 'Veteran'. Ancient and veteran trees are also considered to be irreplaceable habitats, and contribute to a site's biodiversity, cultural and heritage value, and the National Planning Policy Framework (see below) states that development resulting in the loss or deterioration of ancient or veteran trees should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists.

2. PLANNING CONTEXT

2.1. Planning history

2.1.1. A review of the planning history of this site on the planning section of the LPA website reveals three previous applications for re-development, as listed below:

- App 2009/0136/T (January 2009) Rear Garden: 1x Tree of Heaven – Fell to ground level and treat stump. No objection to works to tree(s) in CA.
- LW9702444R1 (July 1997) Internal alterations. Grant L B Consent with Conditions.
- LW9702444 (May 1997) Partial demolition of internal partitioning, repartitioning of flat and replacement of doors. Withdrawn Application – revision received.

2.2. Planning policy - national

2.2.1. Under Section 197 of the Town and Country Planning Act 1990, local authorities have a statutory duty to consider the protection and planting of trees when considering planning applications. The effects of proposed development on trees are therefore a material consideration, and this is normally reflected in local planning policies.

2.2.2. The National Planning Policy Framework (‘NPPF’)³ sets out the Government’s planning policies for England and how these should be applied in both plan and decision-making. Paragraph 2 makes it clear that the NPPF is itself a material consideration in the determination of planning application. Paragraph 11 states that **“Plans and decisions should apply a presumption in favour of sustainable development.”**

2.2.3. In paragraph 135, within Section 12 “Achieving well-designed and beautiful places” the NPPF states: **“Planning policies and decisions should ensure that developments:**

³ The National Planning Policy Framework (NPPF) (December 2023). Department for Levelling Up, Housing & Communities

- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
- b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;
- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);
- d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and
- f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”

2.2.4. Paragraph 136 in this section states: “**Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.**”

2.2.5. The section titled “Meeting the challenge of climate change, flooding and coastal change” states at paragraph 158: “**Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure**

to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.”

2.2.6. In paragraph 180, within Section 15 “Conserving and enhancing the natural environment” the NPPF states: **“Planning policies and decisions should contribute to and enhance the natural and local environment by:**

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

[...] d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;

2.2.7. In paragraph 186, under the ‘Habitats and biodiversity’ section, the NPPF states: **“When determining planning applications, local planning authorities should apply the following principles:**

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists....”

2.3. Regional planning policy

2.3.1. Policy G1 'Green infrastructure' of the London Plan⁴ states:

"A London's network of green and open spaces, and green features in the built environment, should be protected and enhanced. Green infrastructure should be planned, designed and managed in an integrated way to achieve multiple benefits.

B Boroughs should prepare green infrastructure strategies that identify opportunities for cross-borough collaboration, ensure green infrastructure is optimised and consider green infrastructure in an integrated way as part of a network consistent with Part A.

C Development Plans and area-based strategies should use evidence, including green infrastructure strategies, to:

- 1) identify key green infrastructure assets, their function and their potential function**
- 2) identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.**

D Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network."

2.3.2. Policy G7 'Trees and woodlands' of the London Plan states:

"A London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.

B In their Development Plans, boroughs should:

- 1) protect 'veteran' trees and ancient woodland where these are not already part of a protected site¹³⁹**
- 2) identify opportunities for tree planting in strategic locations.**

C Development proposals should ensure that, wherever possible, existing trees of value are retained.¹⁴⁰ If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits

⁴ The London Plan (March 2021); Greater London Authority

of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

¹⁴⁰ Category A, B and lesser category trees where these are considered by the local planning authority to be of importance to amenity and biodiversity, as defined by BS 5837:2012”.

2.4. Local planning policy

2.4.1. Local planning policies are contained in the London Borough of Camden Council Local Plan 2017.

2.4.2. The relevant section of Policy A3 Biodiversity of the local plan states, *inter alia*:

“A3 Biodiversity. Trees and vegetation The Council will protect, and seek to secure additional, trees and vegetation. We will:

j. resist the loss of trees and vegetation of significant amenity, historic, cultural or ecological value including proposals which may threaten the continued wellbeing of such trees and vegetation;

k. require trees and vegetation which are to be retained to be satisfactorily protected during the demolition and construction phase of development in line with BS5837:2012 ‘Trees in relation to Design, Demolition and Construction’ and positively integrated as part of the site layout;

l. expect replacement trees or vegetation to be provided where the loss of significant trees or vegetation or harm to the wellbeing of these trees and vegetation has been justified in the context of the proposed development;

m. expect developments to incorporate additional trees and vegetation wherever possible.”

2.4.3. The relevant section of Policy D2 Heritage of the Local Plan states:

“D2 Heritage. The Council will: ... h. preserve trees and garden spaces which contribute to the character and appearance of a conservation area or which provide a setting for Camden’s architectural heritage...”

2.5. Neighbourhood planning policy

2.5.1 The relevant policy section within the Hampstead Neighbourhood Plan 2018-2033 (October 2018) states at Policy NE2: Trees: **“1. Development will protect trees that are important to local character, streetscape, biodiversity and the environment.”**

⁵ Determination of magnitude based on DETR (2000) Guidance on the Methodology for Multi-Modal Studies, as modified and extended.

3. THE TREES

3.1. Survey findings

3.1.1. We surveyed 30 individual trees, growing within or immediately adjacent to the property. Their details can be found in the tree survey schedule at **Appendix 3**.

3.1.2. The arboricultural quality of the property is formed by small to moderately sized ornamental planted and self-seeded individuals located along the boundaries of the property and within its rear amenity garden. There is a mix of native, naturalised and exotic species predominantly broadleaf with the occasional conifer.

3.1.3. The most commonly found species is bay while the most dominant specimens are a false acacia and silver birch located at the front of the property and visible from South End Road and the four on and offsite trees (nos. 9, 18, 20 & 26) of ash, tree of heaven, English oak and yew that provide boundary screening and softening of the built form from within the rear garden only, and which are screened from external views by dwellings and rear amenity gardens on all sides of the property. This is consistent with the adjacent dwellings which have similar small gardens with ornamental boundary planting.

3.2. Assessment of suitability for retention

3.2.1. As noted above in Section 2.3, local planning policies require the retention of trees that are “**significant amenity value.**” The individuals within or adjacent to the property, whose attributes we consider meet these criteria, are as follows:

- the two front boundary trees, False acacia no. 2 and silver birch no. 3 growing directly adjacent to South End Road from which they are readily visible from and contribute to softening of the built form in view from Hampstead Heath;
- the rear garden yew tree (no. 26) growing on the southern boundary, which whilst not individually is readily visible from between dwellings on Keats Grove, contributes to boundary screening and softening of the built form in narrow glimpsed views.

3.2.2. Two individual trees (nos. 14 & 30) are unsuitable for retention, irrespective of the proposals, in that they are 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. However, as can be seen below, these trees are not necessarily shown to be removed as part of the proposals; some may be outside the development footprint or may be outside the red line boundary and in third-party ownership. These trees have been assessed as category 'U' and are indicated on the accompanying tree protection plan by **bracketed red** numbers.

3.2.3. There are no category 'A' trees; one category 'B' specimen (yew tree no. 26). The remaining 27 trees are assessed as category 'C' trees, being either of low quality, very limited merit, only low landscape benefits, no material cultural or conservation value, or only limited or short-term potential; or young trees with trunk diameters below 150mm; or a combination of these.

3.3. Assessment of arboricultural impacts

3.3.1. The arboricultural impacts of the proposed site layout plan by Upspace Construction Services Ltd. Architects, drawing no. CF-213-DR-1050-A have been assessed by overlaying this onto the TCP and are discussed in the following sections of this report and are shown on the tree protection plan (TPP) presented at **Appendix 4**.

3.3.2. The TPP identifies the trees to be removed to accommodate the proposed development, either because they are situated within the footprints of proposed structures or surfaces, or because in our judgment they are too close to these structures or surfaces to enable them to be retained. These are shown by means of **red crosses** on the TPP.

3.3.3. The TPP also shows how trees to be retained will be protected from damage during construction, and the measures identified are set out and described in the outline arboricultural method statement at **Appendix 2** of this report. The implementation of, and adherence to, these measures can readily be secured by the imposition of appropriate planning conditions.

3.3.4. Details of the impacts identified within these categories, and our assessment of their respective significance, are analysed in Sections 4 to 7 below.

3.3.5. Based on these findings, we have assessed the magnitude of the overall

arboricultural impact of the proposals according to the categories defined in **Table 1** below.

Impact	Description
High	Total loss of or major alteration to main elements/ features/ characteristics of the baseline, post-development situation fundamentally different
Medium	Partial loss of or alteration to main elements/ features/ characteristics of the baseline, post-development situation will be partially changed
Low	Minor loss of or alteration to main elements/ features/ characteristics of the baseline, post-development changes will be discernible, but the underlying situation will remain similar to the baseline
Negligible	Very minor loss of or alteration to main elements/ features/ characteristics of the baseline, post-development changes will be barely discernible, approximating to the 'no change' situation

Table 1: Magnitude of impacts⁶

⁶ Determination of magnitude based on DETR (2000) Guidance on the Methodology for Multi-Modal Studies, as modified and extended.

4. TREES TO BE REMOVED

4.1. Details

4.1.1. To accommodate the proposed development, as shown on the proposed layout plan, eight individual trees (nos. 12 – 16, 18 – 19 & 22) are to be removed, either because they are situated within the footprints of proposed structures or surfaces, or because they are too close to these to enable them to be retained.

4.1.2. Details of the trees to be removed, including their dimensions, age class and British Standard categorisation, are shown and listed on the TPP and at **Table 2** below.

Tree no.	TPO No.	Species	Height	Trunk diameter	Age class	BS category
12	n/a	Bay	7m	75mm 95mm	Semi-mature	C (1)
13	n/a	Bay	8m	130mm 180mm 135mm	Semi-mature	C (1)
14	n/a	Butterfly bush	4m	130mm est. 210mm est.	Semi-mature	U
15	n/a	Apple	6m	140mm 80mm	Semi-mature	C (1)
16	n/a	Apple	4m	50mm 60mm	Young	C (1)
18	n/a	Tree of Heaven	11m	395mm	Semi-mature	C (1)
19	n/a	Horse chestnut	7.5m	145mm 160mm	Young	C (12)
22	n/a	Butterfly bush	3m	120mm 100mm 60mm	Semi-mature	C (1)

Table 2: Trees to be removed

4.2. Assessment

4.2.1. All those trees that constitute the main arboricultural features of the property and which make the greatest contribution to the character and appearance of the local landscape, to amenity or to biodiversity (see paragraph 3.2.1), will be retained.

4.2.2. As there are no ancient or veteran trees on site, none will be removed.

4.2.3. Two of the trees to be removed are young specimens, which BS 5837 states “**need not necessarily be a significant constraint on the site’s potential**”. None of the individual trees to be removed are covered by a TPO (see 1.6.1 above).

4.2.4. The one category 'B' tree (yew no. 26) is to be retained. Whilst the tree of heaven (no. 18) is a significant component within the rear garden of the existing garden, this individual is not readily visible from exterior views and does not contribute significantly to the amenity of the conservation area.

4.2.5. Furthermore, Tree of heaven (*Ailanthus altissima*) is a fast-growing deciduous species native to northern China, but it was introduced into the UK in 1751. The name 'Tree of heaven' is a Chinese reference to the rate at which this tree grows towards the sky⁷. It is usually a medium-sized tree but can grow to over 30m if conditions are favourable.

4.2.6. Another genetic characteristic of this species is its ability to produce suckers from the surface roots up to 30m from the parent tree. Even when the parent tree has been removed, these suckers can still grow due to the increased vigour.

4.2.7. The rapid rate of growth casts doubts on the suitability of this tree for residential development sites as it can quickly become problematic and overbearing. Furthermore, the species has been identified as having a high propensity to form weak forks, and for those weak forks to fail; sometimes due to the onset of decay⁸. Tree of heaven has a brittle wood which is prone to failing unexpectedly. Consequently, the unpredictable nature of the tree means that the risk of harm for incoming occupiers may be increased if this tree is retained. As such this species is unsuitable for the location it is found.

4.2.8. Seven of the 27 category 'C' trees on site are to be removed: these are either of low quality, low value, or short-term potential. For these reasons, their removal will have no significant impact on the character or appearance of the area.

4.2.9. The one category 'U' tree (no.14) to be removed is unsuitable for retention, irrespective of the proposed development, in that it cannot realistically be retained for longer than 10 years.

⁷ More, D & White, J (2013) Illustrated Trees of Britain & Europe (second edition)

⁸ Lonsdale, D. (2007). Principles of Tree Hazard Assessment and Management

4.2.10. Furthermore, the proposals incorporate space for replacement tree planting. This will mitigate the proposed removals, improve the age class balance of the trees on site, enhance the local landscape, maintain green boundary screening and softening of the built form and re-establish a framework for the ongoing and long-term character of the property.

4.2.11. In the light of these considerations, and taking account of the numbers, sizes and locations of the trees to be retained, including those that are off-site, the felling of the trees identified for removal will represent only a no alteration to the main arboricultural features of the site.

5. TREES TO BE PRUNED

5.1. Details

5.1.1. Four trees to be retained are to be pruned to facilitate implementation of the proposals. These are shown at **Table 3** below.

Tree no.	Species	Proposed works
10	Cherry laurel	Crown reduce southern boundary extent back to north boundary
11	Bay	Crown reduce southern boundary extent back to north boundary
17	Evergreen magnolia	Crown reduce eastern boundary extent back to western boundary
20	English oak	Crown reduce northern canopy quadrant by up to 2m leaving north canopy extent no closer than 3m from central trunk alignment

Table 3: Trees to be pruned to facilitate development

5.2. Assessment

5.2.1. The extent of pruning proposed to the trees listed in **Table 3** is minor. Branches to be removed are mostly small in size and will result in a maximum wound size no greater than 100mm in diameter; this will have an insignificant effect on the health and physiological condition of these trees and complies with the recommendations of British Standard BS 3998:2010, *Tree work – Recommendations*.

5.2.2. The pruning back to the boundary of trees nos. 10, 11 & 17 is consistent with the common law legal right to cut un-protected off-site trees back to one's boundary. Consequently, these works are not required just because of the proposed development: subject to LPA consent they could legally be undertaken irrespective of this scheme and could be repeated whatever the future use of the site.

5.2.3. In terms of impact upon the landscape, the proposed pruning is minor in extent, and will be largely screened in views by either the remainder of the trees' canopies, or by other trees growing within or adjacent to the property. It will have a negligible effect on the appearance of the trees when viewed from outside the property itself, and accordingly will not detract from the character or appearance of the conservation area.

6. ROOT PROTECTION AREA INCURSIONS

6.1. Details

6.1.1. Parts of the proposed outbuilding will encroach within the RPAs of one of the trees to be retained. This is shown in **Table 4** below.

Tree no.	Species	Incursion	Extent of incursion	% of RPA
17	Evergreen magnolia	Proposed outbuilding foundations	1.6m ²	15.7%

Table 4: Proposed incursions within RPAs

6.2. Assessment

6.2.1. The incursions by parts of the proposed outbuilding and its foundations into the RPAs of the evergreen magnolia tree (no. 17) listed at **Table 4** equates to no more than 15.7% of its RPA. This is an assessed 'worst' case scenario as there is an existing boundary wall between the property and the off-site evergreen magnolia. Unlike the northeastern boundary of the site, where there are notable level differences of up to 1m, and the wall providing a rooting barrier, the level differences are not so significant adjacent to the magnolia.

6.2.2. However, whilst the depth of the wall foundation in this location is unknown, it is likely to have presented at least some restriction to rooting and thus, the extent of actual RPA incursion is expected to be less than calculated in **Table 4** above. Potential adverse impacts can be satisfactorily mitigated as set out below and shown at **Table 5** below.

Tree no.	Species	Incursion	Proposed mitigation
17	Evergreen magnolia	Proposed outbuilding foundations	Excavation of foundations to be undertaken manually, under direct control and supervision of an arboricultural consultant to treat any roots discovered

Table 5: Proposed mitigation of RPA incursions

6.2.3. The incursions into the RPA of trees no. 17 are by proposed outbuilding foundations and subject to proposed levels, some degree of excavation will be required. To minimise impacts on these specimens, excavation within these RPAs will

be undertaken manually, under the direct control and supervision of an appointed arboricultural consultant, so that any over dig into the RPAs is avoided, and any roots encountered can be treated appropriately.

6.2.4. As a species evergreen magnolia has been identified as 'poor or good' at tolerating root pruning and disturbance⁹. And as this specimen is semi-mature; of average physiological condition; has a likely slightly reduced rooting extent into the site by the existing wall foundation is assessed as likely to be 'good' at root pruning, there is no reason to suggest that it will not be able to tolerate the cutting of roots within this section of its RPA.

6.2.5. The areas lost to encroachment within the RPA of the tree no. 17 can be compensated for in the areas to the west and north of the tree, where there is an extensive area of soft landscaping suitable for root growth, contiguous to its RPA. There is likely to already be significant rooting within this area, and as it is to remain as soft landscape, root growth can continue in the future. Therefore, there will be no net loss of suitable rooting area, and no foreseeable risk of future cumulative impacts, so there is no reason to suggest that it will not be able to tolerate the cutting of roots within this small section of its RPA or that it will not remain viable.

6.2.6. Implementation of measures to prevent other incursions into the RPAs of retained trees and to protect them during construction can be assured by the erection of appropriate protective fencing and the installation, as shown on the TPP at **Appendix 4**.

6.2.7. Accordingly, subject to implementation of the above measures, and considering the ages, current physiological condition and tolerance of disturbance of these retained trees, no significant or long-term damage to their root systems or environments will occur as a result of the proposed development.

⁹ MATHENY, N. P. and CLARK, J. R. (1998). Trees and Development. International Society of Arboriculture.

7. RELATIONSHIP OF RETAINED TREES TO NEW DWELLINGS

7.1. Shading

7.1.1. None of the proposed new outbuilding's fenestrations fall within the shadow patterns¹⁰ of retained trees; that is, where proposed dwellings or apartments sited in an arc between the north-west and the east of retained trees are closer to them than the current heights of these specimens.

7.1.2. As no windows of the outbuilding's rooms lie within the shadow patterns of any retained trees, it will not be shaded by retained trees to the extent that this will interfere with its reasonable use or enjoyment by incoming occupiers; which might otherwise lead to pressure to permit felling or severe pruning that the LPA could not reasonably resist.

7.2. Apprehension

7.2.1. Apprehension in relation to trees occurs normally with residents or occupiers who live beneath or close to the crowns of large trees, and become fearful that branches, stems or even a whole tree could fail and harm them or their property. Consequently, this is most likely to occur if trees are large, particularly in relation to the size or height of the building proposed, if buildings are located close to or even beneath their crowns, and if there has been a history of recent failures nearby.

7.2.2. In this case, apprehension is most unlikely. This is because the closest trees are small ornamentals and are no closer than 14m from their current heights (up to 12m); and so, if they were to fail, it would be reasonably foreseeable that they wouldn't reach this building.

¹⁰ BS 5837:2012, 5.2.2, Note 1: "An indication of potential direct obstruction of sunlight can be illustrated by plotting a segment, with a radius from the centre of the stem equal to the height of the tree, drawn from due north-west to due east, indicating the shadow pattern through the main part of the day."

7.3. Future requests for consent to fell

7.3.1. Former government advice, contained in the DETR “Blue Book”¹¹, stated at paragraph 5.11 (1) (ii) that **“incoming occupiers of properties will want trees to be in harmony with their surroundings without casting excessive shade or otherwise unreasonably interfering with their prospects of reasonably enjoying their property. Layouts may require careful adjustment to prevent trees from causing unreasonable inconvenience, leading inevitably to requests for consents to fell.”**¹²

7.3.2. Whilst this document was superseded in March 2014 by online government guidance on ‘Tree Preservation Orders and trees in conservation areas’ (www.gov.uk), this is sound advice. This suggests that for there to be requests for removal, all the following elements should be capable of being demonstrated:

- That the proximity of retained trees to the proposed development is unreasonable, taking account of their size, species, orientation, growth and other relevant factors;
- That requests for consent to fell or unacceptably or repeatedly prune retained trees will inevitably be forthcoming from future occupiers, rather than merely being possible;
- That such future pressure will be for the felling or heavy pruning of the trees concerned, rather than for minor pruning or tree surgery work; and finally
- That such requests to fell or prune could not reasonably be refused by the LPA.

7.3.3. The existing trees will continue to grow in the future; and in time, in common with all trees in urban and suburban areas, it is possible that some pruning will be required to keep them clear of buildings. However, any future pruning can be controlled by the LPA as the trees are within a conservation area, and a S211 notification of proposed works would have to be made in advance; and if the LPA considers the proposed works are likely to be harmful to the health or appearance of these specimens, it would be able to make a TPO to prevent this. In this way, the LPA

¹¹ (2000) Department of the Environment, Transport and the Regions (2000). Tree Preservation Orders – A guide to the Law and Good Practice. *Building Research Establishment*

¹² British Standard BS 8206: Part 2 (1992). *British Standards Institute*.

would control both the extent and quality of pruning required.

7.3.4. Accordingly, the proposals comply with British Standard guidance on the probable impact of the existing trees on the proposed development, as set out at paragraph 5.3.4.¹³

¹³ BS 5837:2012, 5.3.4.

8. CONCLUSIONS

8.1. Summary

8.1.1. Our assessment of the impacts of the proposals on the existing trees concludes that no category 'A' or 'B' trees, and no trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the property, are to be removed. The proposed removal of eight small individual trees within a rear secluded garden will represent no alteration to the main arboricultural features of the property, only a minor alteration to the overall arboricultural character of the property and will not have an adverse impact on the arboricultural character and appearance of the local landscape or the conservation area.

8.1.2. The proposed pruning is minor in extent, will not detract from the health or appearance of these trees, and complies with current British Standards.

8.1.3. The incursion into the Root Protection Area of one tree, evergreen magnolia (no. 17) to be retained is likely to be tolerated by this specimen, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 1**, no significant or long-term damage to its root system or rooting environment will occur.

8.1.4. The proposed outbuilding will not be shaded by retained trees to the extent that this will interfere with its reasonable use or enjoyment by incoming occupiers, which might otherwise lead to pressure on the Local Planning Authority to permit felling or severe pruning that it could not reasonably resist.

8.1.5. The size and disposition of the proposed private garden is such that in our assessment it will not be unduly shaded and will receive reasonable sunlight and daylight. Its use is thus unlikely to lead to future demands for felling or severe pruning of trees.

8.2. Compliance with national planning policy

8.2.1. As the proposals will retain all the main arboricultural features of the property, its arboricultural attractiveness, history and landscape character and setting will be

maintained, thereby complying with Paragraph 130 of the National Planning Policy Framework.

8.2.2. Whilst eight small trees are to be removed, there is no duty in planning policy to retain all existing trees in all circumstances. Paragraph 131 of the NPPF states (*italics added for emphasis*): “**Planning policies and decisions should ensure... that existing trees are retained *wherever possible***”; and thereby recognises circumstances in which it might not be possible to retain every tree. Accordingly, the proposed removal of trees does not mean that this application must thereby be refused; and does not mean it conflicts with Paragraph 131 of the NPPF.

8.2.3. The proposals do not necessitate the removal of any mature trees of large ultimate size, which make the greatest contribution to carbon sequestration and storage, surface water run-off, biodiversity and landscape and air temperature and cleanliness; for all of which, appropriate space for their retention is provided. Accordingly, insofar as this relates to existing trees, the scheme can be seen to have taken a proactive approach to mitigating climate change and thereby complies with Paragraph 153 of the National Planning Policy Framework.

8.2.4. As the proposals will not result in the loss or deterioration of any ancient woodland or any ancient or veteran trees, they comply with paragraph 180 (c) of the NPPF.

8.3. Compliance with regional planning policy

8.3.1. As all the existing trees assessed as being features in the existing built environment will be retained, in arboricultural terms the proposed development complies with Policy G1 ‘Green infrastructure’ of the London Plan.

8.3.2. As all trees of significant value and importance to amenity will be retained, and space exists within the proposed layout for replacement planting, the proposed development will protect, maintain and enhance the main arboricultural features of the property. As such, it complies with Policy G7 ‘Trees and woodlands’ of the London Plan.

8.4. Compliance with local planning policy

8.4.1. As the proposed development will not result in the removal of trees which are of significant amenity landscape value, and contribute to the character and appearance of a conservation area it complies with Policies A3 and D2 of the London Borough of Camden Council Local Plan (2017).

8.5. Compliance with neighbourhood planning policy

8.5.1. As the proposed development will not result in the removal of trees which are important to local character, streetscape, biodiversity and the environment, it complies with Policy NE2 of the Hampstead Neighbourhood Plan 2018-2033 (October 2018).

8.6. Conclusion

8.6.1. On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of negligible magnitude, as defined according to the categories set out in **Table 1** of this report.

APPENDIX 1.

Methodology

A1.1. Tree survey and baseline information

A1.1.1. We surveyed individual trees with trunk diameters of 75mm and above¹⁴ growing within or immediately adjacent to the property; and recorded their locations, species, dimensions, ages, condition, and visual importance in accordance with BS 5837 recommendations.

A1.1.2. The baseline information collected during the site survey was recorded on site using a hand-held digital device. This information was then imported into an Excel spreadsheet and used to produce the tree survey schedule at **Appendix 3**. The numbers assigned to the trees in the tree survey schedule correspond with those shown on the appended tree protection plan.

A1.1.3. We inspected the trees from the ground only, aided by binoculars as appropriate, but did not climb them. We took no samples of wood, roots or fungi. We did not undertake a full hazard or risk assessment of the trees, and therefore can give no guarantee, either expressed or implied, of their safety or stability.

A1.1.4. Whilst we categorised the trees in accordance with BS 5837 (details of the criteria used for this process can be found in the notes that accompany the tree survey schedule), we assessed the trees' suitability for retention against national, regional and local planning policies. We applied this methodology in line with the NPPF's presumption in favour of sustainable development, giving greater weighting to the contribution of a tree to the character and appearance of the local landscape, to amenity, or to biodiversity, where its removal might have a significant adverse impact on these factors.

A1.2. Tree constraints

A1.2.1. In line with the NPPF's presumption in favour of sustainable development, we assessed whether any trees should be retained in the context of the proposed development. Our assessment of which trees might have to be retained, and which can be removed, is based on:

¹⁴ BS 5837, paragraph 4.2.4 b), recommends that all trees over 75mm stem diameter should be included in a pre-planning land and tree survey.

A1.2.2. whether any trees are classed as ‘ancient’ or ‘veteran’, and thereby are designated as ‘irreplaceable habitats’;¹⁵

A1.2.3. which trees contribute to local character and history, including to the surrounding landscape setting; which trees contribute to biodiversity; and which trees help mitigate and adapt to climate change; and whose removal would thereby be unlikely to comply with national planning policy guidance;

A1.2.4. our assessment of the tree’s quality, value and remaining life expectancy, in accordance with BS5837:2012, as summarised in the notes that accompany the tree survey schedule; and

A1.2.5. Whilst we have categorised trees in accordance with BS 5837, we have not used these categorisations as the main criterion of whether specimens might be removed or should be retained. Trees in categories ‘A’, ‘B’ and ‘C’ are all a material consideration in the development process; but the retention of category ‘C’ trees, being of low quality or of only limited or short-term potential, will not normally be considered necessary should they impose a significant constraint on development.

A1.2.6. Furthermore, BS 5837 makes it clear that young trees, even those of good form and vitality, which have the potential to develop into quality specimens when mature **“need not necessarily be a significant constraint on the site’s potential”**¹⁶.

A1.2.7. Moreover, BS 5837 states that **“.... care should be taken to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal”**¹⁷.

A1.2.8. The ‘Root Protection Areas’ (RPAs)¹⁸ of the trees identified for retention were calculated in accordance with Section 4.6 of BS 5837; and were assessed taking account of factors such as the likely tolerance of a tree to root disturbance or damage, the morphology and disposition of roots as influenced by existing site conditions

15 The National Planning Policy Framework (NPPF) (July 2021). Paragraph 180 (c).

16 BS 5837, 4.5.10.

17 Ibid., 5.1.1.

18 Ibid., paragraph 3.7. “The minimum area around a retained tree “deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority.”

(including the presence of existing roads or structures), as well as soil type, topography and drainage. Where considered appropriate, the shapes of the RPAs (although not their areas) were modified based on these considerations, so that they reflect more accurately the likely root distribution of the relevant trees.

A1.2.9. To assess whether the trees identified for retention would be in a sustainable relationship with the proposed development (without casting excessive shade or otherwise unreasonably interfering with incoming residents' prospects of enjoying their properties, and thereby leading inevitably to requests for consents to fell), we plotted a segment or "shading arc" from each trunk, with a radius equal to the current height of the tree concerned, from due north-west to due east. This gave an indication of potential direct obstruction of sunlight and the shadow pattern cast through the main part of the day¹⁹.

A1.2.10. Based on these principles and recommendations, the tree survey and assessment of suitability for retention informed the production of a tree constraints plan (TCP) which indicates the most suitable trees for retention, and their associated below-ground and above-ground constraints.

A1.2.11. As a design tool, the TCP also indicates how close to those trees selected for retention the proposed development could be positioned, in terms of three key criteria:

- a). avoidance of unacceptable root damage;
- b). avoidance of the necessity for unacceptable pruning works; and
- c). avoidance of future felling or pruning works to prevent unacceptable shading or apprehension on behalf of the occupants.

A1.2.12. The TCP was then used to inform the siting of the proposed building during the design process. In this way, it has been ensured that the existing trees have made a significant contribution to the design of the proposed development, rather than the design having dictated which trees are to be removed.

¹⁹ Ibid., paragraph 5.2.2 Note 1.

APPENDIX 2.

Outline Arboricultural Method Statement

A2.1. Tree Protection Plan

A2.1.1. The TPP at **Appendix 4** shows the general and specific provisions to be taken during construction of the proposed development, to ensure that no unacceptable damage is caused to the root systems, trunks or crowns of the trees identified for retention. These measures are indicated by coloured notations in areas where construction activities are to occur either within, or in proximity to, retained trees, as described in the relevant panels on the drawing.

A2.2. Pre-start meeting

A2.2.1. Prior to the commencement of any site clearance, ground preparation, demolition or construction works the developer will convene a pre-start site meeting. This shall be attended by the developer's contract manager or site manager, the demolition contractor, the fencing/boarding contractor, the groundwork contractor(s) and the arboricultural consultant. The LPA tree officer will be invited to attend. If appropriate, the tree felling/surgery contractor should also attend. At that meeting contact numbers will be exchanged, and the methods of tree protection shall be fully discussed, so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to the TPP required as a result of the meeting shall be circulated to all attendees.

A2.3. Site clearance

A2.3.1. No clearance of trees or other vegetation shall be undertaken until after the pre-start meeting and after the erection of the tree protection fencing (see below). If any vegetation clearance is required behind the line of the protection fencing this will be made clear at the pre-start meeting and arrangements will be made to do this prior to the fencing's erection, under the supervision of the arboricultural consultant, who will ensure it doesn't cause any soil compaction or damage to the roots of trees to be retained.

A2.3.2. Except where within the RPAs of trees to be retained, all trees and other vegetation to be removed may be cut down or grubbed out as appropriate; but within the RPAs of trees to be retained, trees and vegetation will be cut by hand to ground level and stumps will be either left in place or ground out with a lightweight self-powered stump grinding machine. No excavators, tractors or other vehicles will enter the RPAs.

A2.4. Ground preparation and demolition

A2.4.1. No ground preparation or excavation of any kind, including topsoil stripping or ground levelling, shall be undertaken until after the pre-start meeting and after the erection of the tree protection fencing (see below).

A2.4.2. Demolition of existing buildings and removal of existing areas of hard surfacing that abut or overlie RPAs will be undertaken with care, under the control and supervision of an appointed arboricultural consultant, to ensure that the adjacent soil is not unacceptably excavated, disturbed or compacted.

A2.5. Tree protection fencing

A2.5.1. Construction exclusion zones (CEZs) will be formed by erecting protective fencing around the RPAs of all on-site trees to the specification recommended in BS 5837, Section 6.2, prior to the commencement of construction. This will be at least 2.1m in height, comprising welded mesh panels; every other one braced with a 45° strut that is pinned to the ground; and seated in concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm, as shown in **Figure 3** of that document. Individual panels will be fixed to each other with at least two clamps, one of which will be a security clamp. **"TREE PROTECTION ZONE - KEEP OUT"** or similar notices will be attached with cable ties to every third panel.

A2.5.2. The RPAs of the off-site trees will also be enforced by the erection of protective fencing to the same specification, prior to the commencement of construction, thereby safeguarding them from incursions by plant or machinery, storage and mixing of materials, or other construction-related activities which could have a detrimental effect on their root systems.

A2.5.3. The recommended positions of the protective fencing are shown by **bold blue lines** on the TPP. The precise positioning of the fencing around the trees will be considered in conjunction with any other protective hoarding/fencing which may be required around the site boundary.

A2.5.4. Within the CEZs safeguarded by the protective fencing, there will be no changes in ground levels, **no soil stripping**, and no plant, equipment, or materials will be stored. Oil, bitumen, diesel, and cement will not be stored or discharged within 10m of any trees. Areas for the storage or mixing of such materials will be agreed in

advance and be clearly marked. No notice boards, or power or telephone cables, will be attached to any of the trees. No fires will be lit within 10m of any part of any tree.

A2.6. Manual excavation within RPAs

A2.6.1. The first 750mm depth of excavations required within the RPAs of the trees to be retained (as shown by **bold orange lines** on the TPP) will be dug by hand, using a compressed air soil pick if appropriate, and under on-site arboricultural supervision, to safeguard against the possibility of unacceptable root damage being caused to these specimens. Any roots encountered of over 25mm diameter will be cut back cleanly to the face of the dig nearest to the tree, using a sharp hand saw or secateurs, and their cut ends covered with hessian to prevent desiccation.

APPENDIX 3.

Tree Survey Schedule



ARBORICULTURAL PLANNING CONSULTANTS

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(Operations)

Preliminary Tree Survey Schedule

Leigh House, 73 South End Road

April 2023
SJA tss 23206-01

Tree Survey Schedule: Explanatory Notes

Leigh House, 73 South End Road

This schedule is based on a tree inspection undertaken by Jesse Tree of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Thursday the 27th April 2023. Weather conditions at the time were dry and overcast. Deciduous trees were in partial leaf.

The information contained in this schedule covers only those trees that were examined, and reflects the condition of these specimens at the time of inspection. We did not have access to the trees from any adjacent properties; observations are thus confined to what was visible from within the site and from surrounding public areas.

The trees were inspected from the ground only and were not climbed, and no samples of wood, roots or fungi were taken. A full hazard or risk assessment of the trees was not undertaken, and therefore no guarantee, either expressed or implied, of their safety or stability can be given.

Trees are dynamic organisms and are subject to continual growth and change; therefore the dimensions and assessments presented in this schedule should not be relied upon in relation to any development of the site for more than twelve months from the survey date.

1. Tree no.

Given in sequential order, commencing at "1". Numbers correspond with numbering on topographical survey plan.

2. Species.

'Common names' are given, taken from MITCHELL, A. (1978) A Field Guide to the Trees of Britain and Northern Europe.

3. Height.

Estimated with the aid of a hypsometer, given in metres.

4. Trunk diameter.

Trunk diameter measured at approx. 1.5m above ground level; or where the trunk forks into separate stems between ground level and 1.5m, measured at the narrowest point beneath the fork. Given in millimetres.

5. Radial crown spread.

The linear extent of branches from the base of the trunk to the main cardinal points, rounded up to the closest half metre, unless shown otherwise. For small trees with reasonably symmetrical crowns, a single averaged figure is quoted.

6. Crown break.

Height above ground and direction of growth of first significant live branch.

7. Crown clearance.

Distance from adjacent ground level to lowest part of lowest branch, in metres.

8. Age class.

Young: Seedling, sapling or recently planted tree; not yet producing flowers or seeds; strong apical dominance.

Semi-mature: Trunk often still smooth-barked; producing flowers and/or seeds; strong apical dominance, not yet achieved ultimate height.

Mature: Apical dominance lost, tree close to ultimate height.

Over-mature: Mature, but in decline, no crown retrenchment

Veteran: Mature, with a large trunk diameter for species; but showing signs of veteranisation, irrespective of actual age, with decay or hollowing, a crown showing retrenchment and a structure characteristic of the latter stages of life.

Ancient: Beyond typical age range and with a very large trunk diameter for species; with extensive decay or hollowing, a crown that has undergone retrenchment and a structure characteristic of the latter stages of life.

9. Physiology.

Health, condition and function of the tree, in comparison to a normal specimen of its species and age.

10. Structure.

Structural condition of the tree – based on both the structure of its roots, trunk and major stems and branches, and on the presence of any structural defects or decay.

Good: No significant morphological or structural defects, and an upright and reasonably symmetrical structure.

Moderate: No significant pathological defects, but a slightly impaired morphological structure; however, not to the extent that the tree is at immediate or early risk of collapse.

Indifferent: Significant morphological or pathological defects; but these are either remediable or do not put the tree at immediate or early risk of collapse.

Poor: Significant and irreparable morphological or pathological defects, such that there may be a risk of failure or collapse.

Hazardous: Significant and irreparable morphological or pathological defects, with a risk of imminent collapse.

11. Comments.

Where appropriate comments have been made relating to:

- Health and condition
- Safety, particularly close to areas of public access
- Structure and form
- Estimated life expectancy or potential
- Visibility and impact in the local landscape

12. Category.

Based on the British Standard "Trees in relation to design, demolition and construction - Recommendations", BS 5837: 2012; adjusted to give a greater weighting to trees that contribute to the character and appearance of the local landscape, to amenity, or to arboricultural biodiversity.

Category U: Trees 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.

- (1) Trees that have a serious, irreparable, 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).
- (2) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.
- (3) 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.

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

- (1) Trees that are particularly good examples of their species, especially if rare or unusual.
- (2) Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.
- (3) Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

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

- (1) 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 minor 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.
- (2) Trees present in numbers, usually growing as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals; or trees present in numbers but situated so as to make little visual contribution to the wider locality.
- (3) Trees with material conservation or other cultural value.

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 150mm.

- (1) Unremarkable trees of very limited merit or of such impaired condition that they do not qualify in higher categories.
- (2) 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 landscape benefits.
- (3) Trees with no material limited conservation or other cultural value.

TREE SURVEY SCHEDULE

Leigh House, 73 South End Road

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
1	Elder	7m	120mm ivy 160mm ivy 2 stems @ 230mm ivy	N 4m E 4m S 3m W 4m	2m	E 3m	Semi-mature	Below average	Moderate	Within 1m of East boundary wall; no consequential defects observed at base; multiple stems from 1m; lower 3/4 smothered by ivy; visible for 30-40m along South End Road; consistent with arboricultural character of the area; minor visual importance.	C (2)
2	Robinia	15m	235mm	N 4m E 4m S 3m W 3.9m	5m	4m	Semi-mature	Average	Moderate	Within 1m of East boundary wall; no consequential defects observed at base; previously topped at 9.5m; visible for 30-50m along South End Road; consistent with arboricultural character of the area; minor visual importance.	C (12)
3	Silver birch	11m	120mm	N 2m E 2m S 2m W 2m	3m	2m	Young	Average	Moderate	Within 1.2m of East boundary wall; girdling exposed root at base suggests poor nursery practice; visible for 30m along South End Road; consistent with arboricultural character of the area; minor visual importance.	C (2)
4	Purple maple	9m	200mm	N 2.5m E 2.5m S 2.5m W 2.5m	4m	4m	Semi-mature	Average	Good	Within 0.3m of stone path to the North; minor mechanical damage to exposed West 90mm diameter root; no consequential defects observed at base; top 1/3 of tree is visible for 10-30m along South End Road; consistent with arboricultural character of the area; minor visual importance.	C (2)
5	Japanese maple	4m	90mm	N 1.5m E 0.5m S 2m SW 2m W 5m NW 1.5m	1.5m	1.8m	Young	Average	Moderate	Within 0.3m of stone path to the North; suppressed form; no consequential defects observed at base; glimpses of the top 1/3 of tree is visible for 10m along South End Road; consistent with arboricultural character of the area; minor visual importance.	C (2)
6	Holly	9m	275mm est.	N 2m NE 2m S 3m SW 4m	4m	2m	Semi-mature	Average	Poor	Within 1 of North and East boundary walls; asymmetric crown; most lateral branches extend Southwest; trunk is supported by a metal prop at 2.5m; lower 80% is smothered by ivy; top half is visible for 30m along South End Road; consistent with arboricultural character of the area; provides screening value; minor visual importance.	C (2)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
7	Purple plum	8m	150mm est.	NE 4m SE 4m SW 3m NW 1m	4m	2m	Semi-mature	Average	Moderate	Off site tree; Northwest of site, leaning Southeast over path and propped by site boundary wall; a crack and bulge runs from top to bottom of wall where the tree is propped; glimpses of the top half is visible for 10m along South End Road; consistent with arboricultural character of the area; provides screening value; minor visual importance.	C (2)
8	Flowering cherry	7m	200mm est.	NE 3m SE 3.5m SW 3m NW 2m	2m	3m	Semi-mature	Average	Moderate	Off site tree; Northwest of site, approximately 1.5m from boundary wall; previously topped at 6m; base not visible due to wall; top half is visible in glimpses for 10m along South End Road; consistent with arboricultural character of the area; provides screening value; minor visual importance.	C (2)
9	Ash	13m	250mm est.	N 3.5m E 3m S 4m W 3.5m	8m	9m	Semi-mature	Average	Moderate	Off site tree; North of site, approximately 0.25m from boundary wall; base not visible due to wall; previously topped at 11m; not visible from street; low screening value; minor visual importance.	C (12)
10	Laurel	6.5m	5 stems @ 100mm est. 150mm est.	N 2m E 3.5m S 5m W 3.5m	1m	2m	Semi-mature	Average	Moderate	Off site tree; North of site, leaning South and propped against boundary wall; a crack runs from top of wall where the tree contacts it, down to the ground; base not visible due to wall; topped at 5-6m; not visible from street; low screening value; minor visual importance.	C (12)
11	Bay	7m	200mm est. 3 stems @ 180mm est. 280mm est. 240mm est.	N 3m E 2m S 4m W 4m	1m	2m	Mature	Average	Moderate	Off site tree; North of site, within 0.4m of boundary wall; multiple stems from 1m; included union at 3m; base not visible due to wall; topped at 5-6m; not visible from street; low screening value; minor visual importance.	C (1)
12	Bay	7m	75mm 95mm	NE 0.5m SE 1m SW 3m NW 1m	1m	2m	Semi-mature	Average	Moderate	Trunk centre is 0.2m from edge of boundary wall; no consequential defects observed at base; suppressed form; twin stemmed from 1m; not visible from street; low screening value; minor visual importance.	C (1)
13	Bay	8m	130mm 180mm 135mm	NE 3m SE 3.1m SW 3.7m NW 3.7m	2m	0m	Semi-mature	Average	Indifferent	No consequential defects observed at base; multiple stems from base; tree shows a predisposition toward forming included unions, which are evident throughout the crown; not visible from street; low screening value; minor visual importance.	C (1)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio - logy	Structure	Comments	Category
14	Butterfly bush	4m	130mm est. 210mm est.	NE 1m SE 5.4m SW 6m NW 2m	0m	1m	Semi-mature	Average	Poor	Has re-established after failing at base; tree leans across path; not visible from street; minor visual importance.	U
15	Apple	6m	140mm 80mm	2m	2m	1m	Semi-mature	Average	Moderate	Small ornamental tree; not visible from street; minor visual importance.	C (1)
16	Apple	4m	50mm 60mm	1m	1.5m	1m	Young	Average	Moderate	Small ornamental tree; not visible from street; minor visual importance.	C (1)
17	Evergreen magnolia	7m	150mm est.	2.5m	2m	2m	Young	Average	Moderate	Off site tree; small ornamental tree; within 1m of boundary wall; not visible from street; minor visual importance.	C (1)
18	Tree of Heaven	11m	395mm	NE 6.7m E 7m SE 8m SW 6m NW 6m	3.5m	3.5m	Mature	Below average	Moderate	No consequential defects observed at base; trunk is bowed Southeast at 2m, then corrects, suggesting historic suppression; four stems arise at 3.5-4m; not yet in leaf; bud density appears much reduced compared to normal; visible only from rear amenity gardens of surrounding properties; minor to moderate visual importance.	C (1)
19	Horse chestnut	7.5m	145mm 160mm	2m	2m	0.3m	Young	Average	Good	No consequential defects observed at base; small ornamental tree; two stems from 1m; not visible from street, and minimally by surrounding properties; minor visual importance; tensile main unions.	C (12)
20	English oak	12m	205mm	N 5.6m E 5.5m S 1m W 3.6m	4m	3m	Semi-mature	Average	Moderate	No consequential defects observed at base; suppressed on South side; not visible from street, and minimally by surrounding properties; minor visual importance.	C (12)
21	Apple	8m	2 stems @ 100mm 2 stems @ 60mm	N 3m E 2m S 0.2m W 2m	2m	2.5m	Young	Average	Indifferent	Regrowth from dead stump; multiple stems from base; no consequential defects observed at base; suppressed on South side; not visible from street, and minimally by surrounding properties; minor visual importance.	C (1)
22	Butterfly bush	3m	100mm 60mm 120mm	N 1m E 0.1m S 3m W 3.5m	2m	2.5m	Mature	Average	Indifferent	Ornamental shrub; suppressed on South side; not visible from street, and minimally by surrounding properties; minor visual importance.	C (1)
23-24	Bay	#T23 8m #T24 10m	#T23 120mm #T24 135mm	N 2m E 2m S 2m W 2m	5m	4m	Young	Average	Moderate	Small ornamental tree; suppressed on South side; not visible from street, and minimally by surrounding properties; minor visual importance.	C (1)

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
25	Elder	4.5m	10 stems @ 50mm est. 2 stems @ 80mm est.	N 2.5m E 3.5m S 2m	0m	1.7m	Mature	Average	Moderate	Small ornamental tree; multiple stems from base; suppressed on West side; not visible from street, and minimally by surrounding properties; minor visual importance.	C (1)
26	Yew	10m	330mm	4m	2.5m	0m	Semi-mature	Average	Moderate	No consequential defects observed at base; crossing branches, included unions, and resin exudation occur between 3m and 6m; an essential component of its group; not visible from street, and minimally by surrounding properties; minor visual importance; contributes to boundary screening.	B (2)
27	Flowering cherry	9.5m	225mm est.	3m	3m	4m	Semi-mature	Average	Moderate	Off-site tree; base is hidden by wall; within 1m of boundary; not visible from street, and minimally by surrounding properties; minor visual importance.	C (2)
28	Apple	8m	225mm est.	2m	5m	3m	Semi-mature	Average	Moderate	Off site tree; 2m SSE of boundary wall; topped at 5m; not visible from street, and minimally by surrounding properties; minor visual importance.	C (1)
29	Himalayan tree-cotoneaster	5m	225mm est.	NE 0.1m SE 1m SW 5m NW 1m	2.5m	SW 2m	Mature	Average	Poor	Off site tree; neighbours' tree inspected from within site only; base obscured by fence; heavily suppressed form; crown is biased Southwest; cracked Southwest 200mm diameter branch; structural condition renders tree ill-suited for long term retention; visible only from within site.	C (1)
30	Unidentifiable	10m	400mm est.	2.5	4m	4m	Mature	Dead	Poor	Off site tree; neighbours' tree inspected from within site only; base obscured by fence; lopped at 7-10m; standing monolith, appears dead.	U

Root Protection Areas (RPAs)

Root Protection Areas have been calculated in accordance with paragraph 4.6.1 of the British Standard 'Trees in relation to design, demolition and construction – Recommendations', BS 5837:2012. This is the minimum area which should be left undisturbed around each retained tree. RPAs are portrayed initially as a circle of a fixed radius from the centre of the trunk; but where there appear to be restrictions to root growth the circle is modified to reflect more accurately the likely distribution of roots.

<i>Tree No.</i>	<i>Species</i>	<i>RPA</i>	<i>RPA Radius</i>
1	Elder	66.0m ²	4.6m
2	Robinia	25.0m ²	2.8m
3	Silver birch	6.5m ²	1.4m
4	Purple maple	18.1m ²	2.4m
5	Japanese maple	3.7m ²	1.1m
6	Holly	34.2m ²	3.3m
7	Purple plum	10.2m ²	1.8m
8	Flowering cherry	18.1m ²	2.4m
9	Ash	28.3m ²	3.0m
10	Laurel	31.9m ²	3.2m
11	Bay	119.7m ²	6.2m
12	Bay	6.6m ²	1.5m
13	Bay	30.5m ²	3.1m
14	Butterfly bush	27.6m ²	3.0m
15	Apple	11.8m ²	1.9m
16	Apple	2.8m ²	0.9m
17	Evergreen magnolia	10.2m ²	1.8m
18	Tree of Heaven	70.6m ²	4.7m
19	Horse chestnut	21.1m ²	2.6m
20	English oak	19.0m ²	2.5m
21	Apple	12.3m ²	2.0m
22	Butterfly bush	12.7m ²	2.0m
23-24	Bay	6.5m ²	1.4m
		8.2m ²	1.6m
25	Elder	16.4m ²	2.3m
26	Yew	49.3m ²	4.0m
27	Flowering cherry	22.9m ²	2.7m
28	Apple	22.9m ²	2.7m
29	Himalayan tree-cotoneaster	22.9m ²	2.7m
30	Unidentifiable	72.3m ²	4.8m

APPENDIX 4.

Tree Protection Plan
