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Arboricultural Implications Report

Proposed development at

Netley Cottage

Lower Terrace

Hampstead

September 2020

Ref. SJA air 20110-01b

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 on trees concludes that no mature trees, 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 site are to be removed. The proposed removal of individuals and groups of trees will represent only a minor alteration to the main arboricultural features of the site, only a minor alteration to the overall arboricultural character of the site and will not have a significant adverse impact on the arboricultural character and appearance of the local landscape or the conservation area.

S3. As no trees are to be pruned, and none of the proposed buildings will be within 5m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

S4. The incursions into the Root Protection Areas of trees to be retained are minor, 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 their root systems or rooting environments will occur.

S5. As the proposed development will not: result in the removal of trees which are of significant amenity, historical, cultural or ecological value, protects retained trees in line with the BS5837 2012, incorporates retained trees into the design layout, and provides additional planting to mitigate the loss of trees and canopy cover, it complies with Policies A3 and D2 of the London Borough Camden adopted Local Plan 2017 & Camden Planning Guidance March 2019.

S6. As the proposed development will not result in the removal of trees that are important to the local character, street scape, biodiversity and the environment it complies with Policy NE2 of the Hampstead Neighbourhood Plan 2018-2033 (October 2018).

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APPENDICES

1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees has been instructed by Mr and Mrs Berendsen to visit Netley Cottage, Lower Terrace and to survey the trees growing on or immediately adjacent to this site.

1.1.2. We are further asked to identify which trees are worthy of retention within a proposed development of the site; 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, and complies with local validation requirements, and with the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations* ('BS 5837').

1.2.2. The proposed development comprises the construction of a pool house with associated landscaping works.

1.2.3. This report summarises and sets out the main conclusions of the baseline data collected during the tree survey and identifies those trees or groups of 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 and groups of 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). A summary and conclusion, with regard to local planning policy, are presented in Section 7.

1.3. Site inspection

1.3.1. A site visit and tree inspection were undertaken by Finn Cullerne SJAtrees on Wednesday 18th March 2020. Weather conditions at the time were overcast but dry. Deciduous trees were not in leaf.

1.4. Site description

1.4.1. The site is 0.08ha in size and is located on the east side of Lower Terrace, as shown at ***Figure 1*** below. The north boundary abuts Upper Terrace. The east boundary abuts Lower Terrace. The east and south boundaries adjoin residential properties.

Figure 1: Site location shown on Google Earth image

1.4.2. It is on ground that rises by 2m from its southern end to the northern end, and currently comprises the private garden of Netley Cottage with associated outbuildings and landscaping.

1.5. Soil type

1.5.1. The British Geological Survey Solid and Drift Geology map of the area indicates the site lies on a bedrock of Bagshot Formation (Sand) with no additional information on the superficial deposits.

1.5.2. Whilst no site investigation or formal soil analysis has been undertaken, SJAtrees has undertaken supervision of excavation works in the adjacent Grove Lodge property and confirmed the soil has a high sand composition. This suggests that trees are likely to be deep rooted and at low risk of being intolerant of soil compaction.

1.6. Statutory controls

1.6.1. Three of these trees are covered by a tree preservation order (TPO). This is TPO 'The County of London (Hampstead No. 9) Tree Preservation Order, 1956'. made by London Borough of Camden, which protects seven lime trees on "**Land comprising a bank flanking the roadway at the west end of Admirals Walk**". The trees protected by this TPO are identified within our tree survey schedule at **Appendix 2** and on the accompanying tree locations and tree protection plans.

1.6.2. The site is within the boundaries of the Hampstead Conservation Area. The Character Appraisal for this area references the tree in the small triangle of land to the west of the site but mainly comments on the architectural character and appearance of the area with no further reference to trees.

1.7. Non-statutory designations

1.7.1. There are no woodlands within or abutting the site 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 site 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. METHODOLOGY

2.1. National policy context

2.1.1. 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.

2.1.2. The National Planning Policy Framework (NPPF) (February 2019), 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.**"

2.1.3. At paragraph 127, within Section 12 "Achieving well-designed places" the NPPF states: "**Planning policies and decisions should ensure that developments:**

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."

2.1.4. At paragraph 170, 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…"

2.1.5. At paragraph 175 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…."

2.2. Regional policy context

2.2.1. The London Plan Policy 7.21 Trees and woodlands states:

"Trees and woodlands should be protected, maintained, and enhanced, following the guidance of the London Tree and Woodland Framework (or any successor strategy). In collaboration with the Forestry Commission the Mayor has produced supplementary guidance on Tree Strategies to guide each borough's production of a Tree Strategy covering the audit, protection, planting and management of trees and woodland. This should be linked to a green infrastructure strategy."

"Existing trees of value should be retained and any loss as the result of development should be replaced following the principle of 'right place, right tree'1. Wherever appropriate, the planting of additional trees should be included in new developments, particularly large-canopied species."

2.2.2. Policy G7 Trees and Woodlands of the draft London Plan – 'Intend to Publish' version – December 2019, 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 site

C - Development proposals should ensure that, wherever possible, existing trees of value are retained.[144] If planning permission is granted that necessitates the removal of trees, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or other 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.

[144] 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"

2.3. Local policy context

2.3.1. Local planning policies are contained in the London Borough Camden adopted Local Plan 2017.

2.3.2. The relevant section of Policy A3 of the adopted Local Plan states:

"…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."

2.3.3. The relevant section of Policy D2 of the adopted Local Plan states:

"…Conservation Areas

…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."

2.3.4. The Council has prepared a Supplementary Planning Document (SPD) dealing with the protection of trees on development sites. The guidance (CPG- Trees, March 2019) presented in this document has been closely followed in the preparation of this report.

2.4. Neighbourhood policy context

2.4.1. 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.

2. Any development that proposes removal of a tree on the Important Tree List should provide justification for the proposed tree removal(s) and details of replacement tree planting to mitigate against the loss of canopy cover, included within the application. Any trees removed to facilitate development shall be replaced by trees of a large [15m+] ultimate size where the site allows.

3. If a tree replacement enforcement notice is in place, the proposed development must allow for the trees' replacement.

4. Where there are no existing trees on a site, unless it can be demonstrated as unfeasible or non-viable, development should allow space for the future planting of trees well suited to local conditions, as noted above.

Veteran trees

5. Planning proposals are required to ensure that veteran trees are fully protected in accordance with Natural England's "Standing Advice for Ancient Woodland and Veteran Trees". Root protection zones of veteran trees will be at least 15 metres radius for each tree, deadwood should be retained where possible. Canopy reduction to facilitate construction will only be acceptable in exceptional circumstances such as where canopy reduction is required to give access for construction machinery and it is demonstrated that there are no alternatives.

6. Tree root protection for veteran trees should provide for any likely activities that may occur during construction."

2.5. Tree survey and baseline information

2.5.1. We surveyed individual trees with trunk diameters of 75mm and above[1], trees with trunk diameters of 150mm and above growing in groups or woodlands, and shrub masses, hedges and hedgerows[2] growing within or immediately adjacent to the site; and recorded their locations, species, dimensions, ages, condition, and visual importance in accordance with BS 5837 recommendations.

2.5.2. The baseline information collected during our 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 2**. The numbers assigned to the trees in the tree survey schedule correspond with those shown on the appended tree protection plan.

[1] 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.

[2] Ibid, 4.4.2.7

2.5.3. We surveyed trees as groups where we considered that they had grown together to form cohesive arboricultural features, either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally[3]. However, where we considered that it might be necessary to differentiate between specific trees within these groups, we also surveyed these individually.

2.5.4. 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.

2.5.5. We have categorised the trees in accordance with BS 5837, and details of the criteria used for this process can be found in the notes that accompany the tree survey schedule.

2.5.6. We have 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.

2.6. Tree constraints

2.6.1. In line with the NPPF's presumption in favour of sustainable development, we assessed whether any trees should be retained in the context of a proposed development. To do this, we identified the main arboricultural features within or immediately adjacent to the site, whose removal we considered could have an adverse impact on the character and appearance of the local landscape, on amenity or on biodiversity.

2.6.2. Whilst BS 5837 states that trees in categories 'A', 'B' and 'C' are all a material consideration in the development process, the retention of category 'C' trees, being of

[3] Ibid, 4.4.2.3

low quality or of only limited or short-term potential, will not normally be considered necessary should they impose a significant constraint on development.

2.6.3. 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**"[4].

2.6.4. 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**"[5].

2.6.5. The 'Root Protection Areas' (RPAs)[6] 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 (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.

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

2.6.7. As a design tool, the TCP showed 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;

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[4] Ibid. 4.5.10.

[5] Ibid. 5.1.1.

[6] 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." BS 5837, paragraph 3.7.

b) avoidance of the necessity for unacceptable pruning works.

2.6.8. The TCP was then used to inform the siting of the proposed buildings and areas of hard surfacing. 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.

2.7. Arboricultural impact assessment and tree protection plan

2.7.1. Once finalised, we assessed the arboricultural impacts of the proposed layout, by overlaying it onto our TCP, and produced the tree protection plan (TPP) presented at **Appendix 3.** This is based on the proposed layout plan by 4orm Architects, drawing no. 4134-P.06.

2.7.2. The TPP identifies the trees which will 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.

2.7.3. 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 at **Appendix 1** to this report. The implementation of, and adherence to, these measures can readily be secured by the imposition of appropriate planning conditions.

2.7.4. For the trees shown to be retained, all measurements for pruning specifications, percentage estimates of RPA incursions and shading issues have been calculated using AutoCAD software.

2.7.5. Details of the impacts identified within these categories, and our assessment of their respective significance, are analysed in Sections 4 to 6 below.

2.7.6. 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.

Category	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 impacts[7]

[7] 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 a total of sixteen individual trees, one group of trees, and two hedges growing within or immediately adjacent to the site. Their details are found in the tree survey schedule at **Appendix 2**.

3.1.2. The arboricultural character of the site is mixed conifer and deciduous comprising roughly equal native and exotic species. The trees are predominantly densely planted in the north and east sections of the garden and adjacent roads. The age class distribution forms a good hierarchical structure with most specimens being semi-mature with less mature and even less as over-mature. The arboricultural character is typical of a private garden and is consistent with the character of the surrounding area.

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 "**of amenity, landscape or cultural value**." The individuals and groups of trees within or adjacent to the site, whose attributes we consider meet these criteria, are as follows:

- The three limes (nos. 1, 2 and 3) are growing on the verge of Lower Terrace, adjacent to the pedestrian access to Netley Cottage, they are visually prominent and significant specimens in their own right and also help to provide some screening of the site from the surrounding public vantage points. Currently, these trees are readily visible from within the site and make a significant contribution to the character and appearance of both the site and the conservation area.

3.2.2. Two individual trees (nos. 6 and 9) have been assessed as category 'U'. The silver birch no. 9 was entirely dead on the date of the survey and has since been removed. The cypress no. 6 is unsuitable for retention, on the basis of it being in such a condition that it cannot realistically be retained as a living tree in the context of the current land use for longer than 10 years. On site trees that need removing solely to accommodate the proposed development are not placed in this category. Category 'U'

trees are indicated on the accompanying tree locations and protection plans by **bracketed red** numbers.

3.2.3. There are two category ‘A’ trees (common limes nos. 1 and 3) and one category 'B' specimen (common lime no. 2). The remaining eleven 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.

3.2.4. The group of trees and two hedges have all been assessed as category ‘C’.

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 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. Of the trees to be removed to facilitate the proposals, all individuals and groups of trees are assessed as category 'C'. None of the Category 'A' or 'B' trees are to be removed. The individuals and group of trees to be removed are shown and listed on the TPP and at ***Table 2*** below.

Tree no.	TPO No.	Species	Height	Trunk diameter	Age class	BS category
7		Holly	9m	295mm	Semi-mature	C (1)
8		Holly	12m	120mm 320mm	Semi-mature	C (12)
10		Holly	12m	255mm	Semi-mature	C (1)
11		Japanese maple	2.5m	100mm	Semi-mature	C (1)
13		Laurel	5m	4 stems @ 250mm est	Semi-mature	C (1)
14		Lawson cypress	17m	445mm	Semi-mature	C (2)
16		Norway spruce	15m	270mm	Semi-mature	C (1)
G1		Various	8m	Min 65mm Max 290mm Avg 160mm	Semi-mature	C (1)

Table 2: Trees to be removed

4.1.3. An additional tree (nos. 6) will be removed as it has been assessed as category 'U' and should be felled for arboricultural management reasons, irrespective of the proposed development.

4.1.4. The group of trees (G1) is to be removed as part of the proposals.

4.2. Assessment

4.2.1. All those trees or groups of trees that constitute the main arboricultural features of the site 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. The Lawson cypress (no. 14) is the most significant specimen to be removed with a trunk diameter of 445mm and a height of 17m, its upper canopy is visible in glimpses from views from Upper Terrace to the north-east but is screened in views from the west by the surrounding tall conifers and limes (nos. 1, 2, 3, 15 and 16).

4.2.3. The cypress is a suppressed specimen growing between the larger Douglas firs' (nos. 12 and 15). The retention of common limes nos. 1 to 3 and conifers nos. 12 & 15 will mitigate the removal of this tree. As such, the removal of this specimen will not have a significant negative impact on the character or appearance of the local area, or conservation area.

4.2.4. The remaining six category 'C' trees to be removed are small (not exceeding 15m in height with a maximum trunk diameter of 320mm) semi-mature specimens of either 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.

4.2.5. The category 'U' tree (Lawson cypress no. 6) to be removed is unsuitable for retention, irrespective of the proposed development, in that it cannot realistically be retained for longer than 10 years.

4.2.6. None of the individual trees to be removed are covered by a TPO (see 1.6.1 above).

4.2.7. Furthermore, the proposals incorporate considerable replacement tree planting; this is shown on the MW Garden Design plan submitted with the application. This will mitigate the proposed removals, improve the age class balance of the trees on site, enhance the local landscape, and re-establish a framework for the ongoing and long-term character of the site. The establishment of the replacement planting will progressively reduce the magnitude of the impact of the proposed removals on the character and appearance of the conservation area.

4.2.8. The removal of the seven individual trees will result in a loss of canopy area of 205m^2, the proposed planting strategy will mitigate this by planting 20 new trees as a mix of semi-mature, heavy standards and standards. Assuming an average canopy

spread of 2m at the point of planting, this will represent an immediate recovery of 250m^2. As the specimens grow, this will increase resulting in a greater nett increase in canopy cover over time.

4.2.9. 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 and groups identified for removal will represent only a minor alteration to the main arboricultural features of the site.

5. TREES TO BE PRUNED

5.1. Details

5.1.1. None of the trees to be retained are to be pruned to facilitate implementation of the proposals.

5.2. Assessment

5.2.1. As no trees are to be pruned, and none of the proposed dwellings will be within 5m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

6. ROOT PROTECTION AREA INCURSIONS

6.1. Details

6.1.1. Parts of the proposed building foundations and hard surfacing will encroach within the RPAs of three of the trees to be retained. These are shown in ***Table 3*** below.

Tree no.	Species	Incursion	Extent of incursion	% of RPA
3	Common lime	Proposed footpath	8.3m^2	2.3%
12	Douglas fir	Proposed pool foundations	3.4m^2	3.5%
		Proposed footpath	12m^2	12.3%
15	Douglas fir	Proposed footpath	8m^2	12%
16	Norway spruce	Proposed footpath	4m^2	12%

Table 3: Proposed incursions within RPAs

6.2. Assessment

6.2.1. The incursion into the RPA of Douglas fir no. 12 is by the proposed pool foundations. The proposed foundation construction methodology is yet to be confirmed, however, it has been confirmed that the piled foundation will require no more than 1m buffer from the foundations shown on the TPP. The foundations extend no closer than 4.5m to the trunks of retained trees, and the incursion equates to no more than 3.5% of the fir's RPA; and potential adverse impacts can be satisfactorily mitigated in the following way.

6.2.2. To minimise impacts on this specimen, 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.

6.2.3. As species, Douglas fir has been identified as good to poor at tolerating root pruning and disturbance[8]. As this specimen is of average physiological condition, there

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

is no reason to suggest that it will not be able to tolerate the cutting of roots within this small section of its RPAs.

6.2.4. The area lost to encroachment within the RPAs of the trees no. 3 can be compensated for in the areas to the south and west of the tree, where there are areas of soft landscaping suitable for root growth, contiguous to the RPA. There is likely to already be significant rooting within this area, and as it is to remain as soft landscape, there is little prospect of this being built on in the future. Therefore, there will be no net loss of suitable rooting area, and no risk of cumulative impacts in the future, 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.

6.2.5. The remaining incursions into the RPAs of trees nos. 3, 12 and 15 are by a proposed pathway. These areas extend to no more than 12.3% of individual RPAs, and do not exceed the 20% maximum incursion into currently unsurfaced ground recommended in BS 58379.

6.2.6. Taking account of existing ground levels and likely proposed levels of these areas, these will allow for design and construction of the new surfaces to be entirely above existing soil level, and accordingly no excavation will be required.

6.2.7. 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, as shown on the TPP at **Appendix 3**.

6.2.8. 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] BS 5837, paragraph 7.4.2.3.

7. CONCLUSIONS

7.1. Summary

7.1.1. Our assessment of the impacts on trees concludes that no mature trees, 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 site are to be removed. The proposed removal of individuals and groups of trees will represent only a minor alteration to the main arboricultural features of the site, only a minor alteration to the overall arboricultural character of the site and will not have a significant adverse impact on the arboricultural character and appearance of the local landscape or the conservation area

7.1.2. As no trees are to be pruned, and none of the proposed dwellings will be within 5m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

7.1.3. The incursions into the Root Protection Areas of trees to be retained are minor, 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 their root systems or rooting environments will occur.

7.2. Compliance with national planning policy

7.2.1. As the proposals will retain all the main arboricultural features of the site, its arboricultural attractiveness, history and landscape character and setting will be maintained, thereby complying with Paragraph 127 of the National Planning Policy Framework.

7.2.2. 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 175 of the NPPF.

7.3. Compliance with regional planning policy

7.3.1. As all the existing trees assessed as being of particular value within the landscape will be retained, and space exists within the proposed layout for replacement planting, including of large-canopied trees, the proposed development will protect, maintain and enhance the main arboricultural features of the site. As such, it complies with Policy 7.21 of the London Plan.

7.4. Compliance with local planning policy

7.4.1. As the proposed development will not: result in the removal of trees which are of significant amenity, historical, cultural or ecological value, protects retained trees in line with the BS5837 2012, incorporates retained trees into the design layout, and provides additional planting to mitigate the loss of trees and canopy cover, it complies with Policies A3 and D2 of the London Borough Camden adopted Local Plan 2017 & Camden Planning Guidance March 2019.

7.5. Compliance with neighbourhood planning policy

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

7.6. Conclusion

7.6.1. 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

Outline Arboricultural Method Statement

Outline arboricultural method statement

A1.1. Tree Protection Plan

A1.1.1. The TPP at **Appendix 3** 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.

A1.2. Pre-start meeting

A1.2.1. Prior to the commencement of any site clearance 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 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.

A1.3. Protective fencing

A1.3.1. 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 consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at maximum intervals of 3.5m. Onto this, welded mesh panels should be securely fixed with wire or scaffold clamps, as shown in **Figure 2** of that document. "**TREE PROTECTION ZONE - KEEP OUT**" or similar notices will be attached with cable ties to every third panel.

A1.3.2. 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.

A1.3.3. 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.

A1.3.4. 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.

A1.4. Manual excavation within RPAs

A1.4.1. 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, in order 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.

A1.5. Proposed hard surfaces within RPAs

A1.5.1. Unacceptable damage to the roots and rooting environments of the trees to be retained during the construction of proposed hard surfaces that encroach within RPAs will be avoided by building them above existing soil level, to avoid digging and thus severing of roots; and an appropriate ground covering will be used beneath the sub-base, to prevent or minimise compaction of the soil. This will be done in accordance with Section 7.4 of BS 5837. The locations where these measures will be required are marked by red **cross-hatching** on the TPP.

APPENDIX 2
Tree survey schedule

SJA trees
ARBORICULTURAL PLANNING CONSULTANTS

17 CROSS ROAD
TADWORTH
SURREY KT20 5ST

Tel: (01737) 813058
E-mail: sja@sjatrees.co.uk

Principal: Simon R. M. Jones Dip. Arb. (RFS), F. Arbor. A.,
Arboricultural Association Registered Consultant
Frank P. S. Spooner BSc (Hons), MArborA, TechCert (ArborA)

Tree Survey Schedule

Netley Cottage, Lower Terrace, Hampstead

March 2020

Tree Survey Schedule: Explanatory Notes

Netley Cottage, Lower Terrace, Hampstead

This schedule is based on a tree inspection undertaken by Finn Cullerne of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Wednesday 18th March 2020. Weather conditions at the time were clear, dry and bright. Deciduous trees were not in 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".

2. TPO no.
Number assigned to tree in the London Borough Camden Tree Preservation Order no. 9/1956, as shown in the TPO schedule and 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: Age less than 1/3 life expectancy
Semi-mature: 1/3 to 2/3 life expectancy
Mature: Over 2/3 life expectancy
Over-mature: Mature, and in a state of decline
Veteran: Mature, with a large trunk diameter for the species; but showing signs of ancientness, irrespective of actual age, with decay or hollowing, and a crown that has undergone some retrenchment and has a structure characteristic of the latter stages of life.
Ancient: Beyond the typical age range and with a very large trunk diameter for species; with extensive decay or hollowing; and a crown that has undergone retrenchment and has 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.
Very good: No significant physiological or structural defects, an upright and reasonably symmetrical structure; a particularly good example of its species.
Good: No significant physiological or structural defects, and an upright and reasonably symmetrical structure.
Moderate: No significant pathological defects, but a slightly impaired physiological structure; however, not to the extent that the tree is at immediate or early risk of collapse.
Indifferent: Significant physiological or pathological defects; but these are either remediable or do not put the tree at immediate or early risk of collapse.
Poor: Significant and irremediable physiological or pathological defects, such that there may be a risk of collapse.
Hazardous: Significant and irremediable physiological 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, Table 1, adjusted to give a greater weighting to trees that contribute to the character and appearance of the local landscape, to amenity, or to 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.
• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category 'U' trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning).
• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.
• Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality.

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

Netley Cottage, Lower Terrace, Hampstead

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
1	TPO No. 1	Common lime	22.5m	840mm	N 3m E 4.2m S 6.3m W 7.6m	7m	N8m S4m	Mature	Average	Moderate	Off-site tree; prominent buttress roots running parallel with kerb line; single upright trunk; cavity on E trunk at 4m, 100mm wide and 500 long, covered by wire mesh, appears to form large cavity; main unions tensile; historically pollarded to 8m, regrowth up to 14m long and 450mm diameter; crown lifted to 8m over road and lower epicormic growth removed; deadwood typical of species and age in canopy; prominent feature of Lower Terrace and contributes to street character; of high landscape value; of no more than moderate quality; of long-term potential.	A (2)
2	TPO No. 2	Common lime	22m	750mm ivy	N 4.1m E 4.8m S 2.5m W 7m	3m	5m	Mature	Below average	Moderate	Off-site tree; located on small but steep bank; single trunk to 3m where it becomes triple-stemmed with tensile unions; ivy-covered; wire mesh in main trifurcation, likely covering cavities; historically pollarded at 7m, regrowth 14m long and 300mm diameter; slender, drawn-up stems; above average deadwood; slightly sparse canopy; sub-dominant canopy; significant component of group; contributes to street character.	B (12)
3	TPO No. 3	Common lime	23m	900mm ivy est	N 6.3m E 5.3m SE 7.8m S 3.8m W 8.3m	3.5m	5m	Mature	Average	Indifferent	Off-site tree; located on steep bank; heavily ivy-covered; base grown into boundary wall and has pushed it back; three-stemmed from 3.5m, ivy obscuring full inspection; large wounds up to 300mm diameter on both stems to E; historically pollarded to 10m, regrowth up to 13m long and up to 275mm diameter; minor deadwood present; essential component of group; readily visible from Upper Terrace and significantly contributes to street character.	A (2)
4		Yew	6m	3 stems @ 80mm	2.25m	1m	0.5m	Young	Average	Moderate	Young tree with stem diameter below 150mm; of moderate quality, but currently of low value due to small size.	C (1)
5		Holly	7m	130mm	2m	2m	2m	Young	Average	Indifferent	Unremarkable tree of very limited merit.	C (3)
6		Lawson cypress	16m	390mm	N 2m E 1.5m S 2.5m W 2.5m	4m	2m	Semi-mature	Low	Poor	Very sparse canopy, extensive deadwood and tip dieback, all indicative of low physiological condition. On verge of terminal decline; unremarkable tree of very limited merit.	U
7		Holly	9m	295mm	3.1m	1.5m	1.5m	Semi-mature	Average	Moderate	Twin-stemmed from 1m with tight compression fork; no further significant defects; upper canopy visible over boundary wall but very limited contribution to street character.	C (1)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
8		Holly	12m	120mm 320mm	N 4m E 3.4m S 4m W 4.2m	1.5m	1.5m	Semi-mature	Average	Moderate	Twin-stemmed from base with tight compression fork; main unions compressive; no further significant defects observed; upper canopy visible from Lower Terrace, but limited impact on landscape.	C (12)
9		Silver birch									Recently removed specimen	U
10		Holly	12m	255mm	2.8m	3m	3m	Semi-mature	Average	Moderate	Of moderate quality, but currently of low value due to small size.	C (1)
11		Japanese maple	2.5m	100mm	2.2m	0.5m	0m	Semi-mature	Average	Moderate	Small ornamental maple; of moderate quality, but currently of low value due to small size.	C (1)
12		Douglas fir	19m	465mm	3m	4m	4m	Semi-mature	Average	Indifferent	No significant defects at base; single upright trunk; sparse lower canopy; evidence of multiple branch failures (approx. 15+); unsuitable species for gardens or urban areas due to tendency for branch failures; upper canopy visible in long range views from Upper Terrace to the north-east but partially screened in views from the west by surrounding trees.	C (2)
13		Laurel	5m	4 stems @ 250mm est	N 4m E 4m S 3m W 2m	0m	0m	Semi-mature	Average	Indifferent	Multi-stemmed from ground level; regularly hedge cut to form ornamental hedge; of limited screening value.	C (1)
14		Lawson cypress	17m	445mm	2.5m	1.5m	0.5m	Semi-mature	Average	Indifferent	No significant defects at base; single upright trunk; branching habit typical of species; twin-stemmed at 12m with tight compression fork, branches obscuring full inspection.	C (2)
15		Douglas fir	18m	385mm	3.2m	5m	1.5m	Semi-mature	Average	Poor	No significant defects at base; single upright trunk; evidence of multiple branch failures with partial failure still attached in W canopy; unsuitable species for gardens or urban areas.	C (2)
16		Norway spruce	15m	270mm	2.5m	3m	2.5m	Semi-mature	Below average	Moderate	No significant defects at base; single upright trunk; slight ivy cover; some needle browning in canopy; slightly sparse canopy; of moderate quality but limited landscape value due to small size and screening by surrounding trees.	C (1)
G1		Various	8m	Min 65mm Max 290mm Avg 160mm	3.5m	1m	1.5m	Semi-mature	Average	Moderate	Group of trees planted adjacent to boundary wall; comprised of holly and cotoneaster; of moderate quality but limited landscape Value due to boundary wall screening.	C (1)
H1		Various	6m	Avg 140mm	2m	1m	1m	Semi-mature	Average	Moderate	Row of closely planted specimens, designed to form a hedge or screen; comprised of yew, cypress and holly; of low Value.	C (1)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
H2		Various	7m	Min 30mm Max 220mm Avg 120mm	2m	0.5m	0.5m	Various	Average	Moderate	Row of closely planted specimens, designed to form a hedge or screen; comprised of cypress, holly and laurel; of moderate quality but of only low level screening value.	C (1)

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.

Tree No.	***Species***	***RPA***	***RPA Radius***
1	Common lime	319.2m²	10.1m
2	Common lime	254.5m²	9.0m
3	Common lime	366.4m²	10.8m
4	Yew	8.7m²	1.7m
5	Holly	7.6m²	1.6m
6	Lawson cypress	68.8m²	4.7m
7	Holly	39.4m²	3.5m
8	Holly	52.8m²	4.1m
9	Silver birch	136.8m²	6.6m
10	Holly	29.4m²	3.1m
11	Japanese maple	4.5m²	1.2m
12	Douglas fir	97.8m²	5.6m
13	Laurel	113.1m²	6.0m
14	Lawson cypress	89.6m²	5.3m
15	Douglas fir	67.1m²	4.6m
16	Norway spruce	33.0m²	3.2m
G1	Various	38.0m²	3.5m
H1	Various	8.9m²	1.7m
H2	Various	21.9m²	2.6m

APPENDIX 3
TREE PROTECTION PLAN

Arboricultural Impacts: Summary

(For details, see below)

Impact	No. of Trees
Trees to be removed	8
Groups of trees to be removed	1
TPO trees to be removed	0
Trees to be pruned	0
Trees where manual excavation needed within RPAs	1
Trees where above soil surfacing needed within RPAs	3
Trees with proposed underground services within RPAs	0

Trees to be Removed

No	Species	Category
6	Lawson cypress	U
7	Holly	C (1)
8	Holly	C (12)
10	Holly	C (1)
11	Japanese maple	C (1)
13	Laurel	C (1)
14	Lawson cypress	C (2)
16	Norway spruce	C (1)
G1	Various	C (1)

Total numbers of trees to be removed

Category	No. of trees	Category	No. of trees
A	0	B	0
C	7	U	1

Trees that require manual excavation within RPAs

No.	Species	Type of structure
12	Douglas fir	Proposed pool foundations

Trees that require above soil surfacing within RPAs

No.	Species	Type of structure
3	Common lime	Proposed footpath
12	Douglas fir	Proposed footpath
15	Douglas fir	Proposed footpath

SJA Excavation of proposed swimming pool to be undertaken manually, under on-site supervision of arboricultural consultant.

SJA Shape of Root Protection Area modified to reflect restriction to root growth.

SJA Trees to be removed

SJA Construction Exclusion Zone ('CEZ')

SJA Proposed footpath to be installed above existing soil level; see inset panel

SJA Protective fencing as per BS5837; see inset panel

Lower Terrace

G1 Various
8 Holly
10 Holly
[9] Silver birch
7 Holly
Laurel
13
11 Japanese maple
Yew
4
Douglas fir
12
Lawson cypress
14
3
Common lime
Lawson cypress
[6]
15 Douglas fir
16 Norway spruce
Common lime
2
Various
H1
Holly
5
1
Common lime
H2
Various
+129.87
Garden
Grove End
Grove End Garden
Sitting Room
Kitchen
Dining
Store
Entrance
WC
Grove Lodge

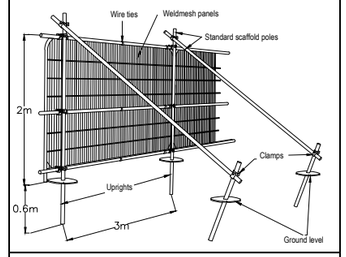
N

0 2m 4m 6m 8m 10m
METRES

1 : 200 @A3

Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction. To comprise either 2.4m wooden site hoarding; or a 2m high scaffolding framework, with uprights at maximum 3m spacings, every other one braced to the ground with 45 degree struts; supporting standard anti-climb 'Heras' welded mesh fence panels secured with anti-lift devices to concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm; individual panels fixed to each other with at least 2 clamps and to scaffolding with heavy-duty cable ties. "TREE PROTECTION ZONE - KEEP OUT" or similar notices to be attached to every fifth panel.



TREE PROTECTION FENCING as shown in BS 5837: 2012, Section 6.2.2 & Figure 2.

Manual Excavation

Within root protection areas the first 750mm depth of any excavation, whether for proposed foundations or underground services shall be undertaken by hand under arboricultural supervision. The soil will be loosened with a pick or fork, and then will be cleared from roots with a compressed air soil pick. All roots will be cut cleanly with a hand saw or secateurs. The edge of the excavation closest to the trees will be covered with hessian sacking to prevent drying out, and if necessary be shuttered with an appropriate material to prevent soil collapse. Where appropriate, the soil beneath this depth may be sheet piled; and deeper excavation may be undertaken by a machine provided it works from outside the root protection areas.

Above Soil Surfacing

Proposed hard surfacing within root protection areas (RPAs) of retained trees to be constructed in accordance with section 7.4 of BS 5837: 2012, Trees in relation to design, demolition and construction - Recommendations. Other than the careful removal, using hand tools, of any turf layer, surfaces will be installed above existing soil level, or no deeper than the base of any existing surfacing it is replacing, so that the soil is not disturbed and no roots are severed. Edge supports will also be installed above existing soil level.

Arboricultural Supervision

The arboricultural consultant will directly supervise all construction works that have to be undertaken within root protection areas. These include:

1. Location of protective fencing and ground protection.
2. Construction of above-ground hard surfacing.
3. All excavations, whether for proposed foundations, hard surfacing, or underground services.

SJA ARBORICULTURAL PLANNING CONSULTANTS

Project:	Netley Cottage, Camden
Client:	Mr Berensden, Caspar
Drawing:	TREE PROTECTION PLAN
Drawing no:	SJA TPP 20110-041b
Based on:	4134-P15_2

Drawn by: FJC	Date of Issue: Sept 2020	Scale: 1: 200 @ A3
Checked by:	Tel:(01737) 813058	sja@sjatrees.co.uk

Tree nos.:	● 3	Category 'U' trees:	● [6]	Canopies of trees to be retained:	
Category 'A' RPA:		Category 'B' RPA:		Category 'C' RPA:	
Trees to be removed:	7	Protective fencing:		Manual excavation:	
Above soil surfacing:					

For further information refer to the SJAtrees Tree Survey Schedule

Do not scale from this drawing: please check all dimensions on site, and notify us of any discrepancies. SJAtrees (the trading name of Simon Jones Associates Ltd.) cannot be held responsible for inaccuracies in the topographical plan on which this drawing is based.

This drawing is based on the proposed layout plan shown and referred to above. SJAtrees authorises its reproduction, without amendment, by the Local Planning Authority (LPA), and to its posting on the LPA website, to assist in consideration of this application only.

This drawing is designed to reflect only the principles of layout and /or design insofar as these relate to the protection of trees to be retained, and should NOT be read as a definitive engineering or construction method statement. Reference should be made to the architect or structural engineer, as appropriate, over any matters of construction detail or specification, or any engineering standards or regulatory requirements relating to proposed structures, hard surfaces or underground services.