



Project: 24_5837_10_76_1
Site: Flat A 23 Hampstead Lane, London, N6 4RT
Client: Oliver Wright



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Project Number:	24_5837_10_76_1
Report Type:	Tree Survey, Arboricultural Impact Assessment and Method Statement
Site Address:	Flat A 23 Hampstead Lane, London, N6 4RT

Role:	Name:	Date:
Instructing Party	Oliver Wright - NAPC	25/10/2024
Customer	Oliver Wright - NAPC	25/10/2024
Surveyor	Connor Harmsworth	01/11/2024
Consultant	Charlotte Morton	18/11/2024

Revision History		
Date:	Version number:	Summary of changes:
18/11/2024	1.0	First Review (Internal)
18/11/2024	1.0	First Issue

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Validation Statement for the Local Planning Authority.

This report includes the following for LPA validation purposes:

- A **tree survey and tree constraints plan** showing the existing trees, their category rating and above and below ground constraints shown on an OS extract OR a topographical survey
- An **arboricultural impact assessment** which describes how the development will affect local character from a tree perspective
- **Appendices** highlighting tree related information including the **arboricultural data tables**

Customer Action Points.

- ☐ Reporting complete - send to your Local Planning Authority
- ☐ On planning award contact us with your decision notice

1. Introduction & Scope:

This is a BS5837 compliant arboricultural assessment report providing detailed and sufficient information for the Local Planning Authority to be able to consider the effect of the proposed development on local character and amenity from a tree perspective.

Our brief has been to obtain details of the tree population on site with a view to assessing any arboricultural constraints.

The report details all trees over 75mm at 1.5m above ground level that are relevant to the siting of the proposed development. The crowns and stems were inspected from the ground using the 'Visual Tree Assessment (VTA)' method; non invasive techniques were used at this stage. A sounding hammer was used to determine the presence of any decay.

The position of the trees on the site is illustrated on the tree constraints plan and information about the tree stock and its current condition is given within the arboricultural data tables.

Trees were grouped or designated woodlands as per the allowance in the British Standard when the area in question was uniform in terms of species, age or geography.

It will assist the planning process by discussing the impact that the proposals will have on the existing tree stock.

An Arboricultural Impact Assessment is included at Section 4 which details the constraints placed on the proposed development from the rooting area of the trees below ground and above ground by virtue of their size and position.

Report Author.

ROAVR (ROAVR Group) was formed in 2010 and since then has carried out arboricultural consultancy Nationwide with directly employed consultants. Our consultants are all individual members of the Arboricultural Association and the report author is listed in the document control sheet.

Photographic Plates.



Photographic plate showing T1 (left) and T2, T3 (centre) (ROAVR, 2024)



Photographic plate showing the proposed build area. (ROAVR, 2024)



Photographic plate showing the rear garden. (ROAVR, 2024)



Photographic plate showing off site trees T5 to T8 (left) and T9 (right).

(ROAVR, 2024)

2. Site Conditions & Site Surroundings

- 2.1 The site is situated on Hampstead Heath in the London Borough of Camden Council control area. The site is located on the north side of the town and has a suburban feel.
- 2.2 The site is home to a terrace dwelling with associated hard and soft landscape.
- 2.3 The wider locality is predominantly residential. The site is accessed via Hampstead Lane.
- 2.4 A desktop assessment has highlighted that site is within a Conservation Area but failed to establish whether there are any TPO protected trees on or adjacent to the plot.
- 2.5 All desktop assessment data was cross checked and validated on the 06/11/2024 using the web portal provided by the local planning authority.

<https://ssa.camden.gov.uk/connect/analyst/mobile/#/main?mapcfg=%2FMapProjects%2FCamdenConservation>

https://www.camden.gov.uk/tree-preservation-orders?p_l_back_url=%2Fsearch%3Fq%3Dtree%2Bprotection%2Bplan

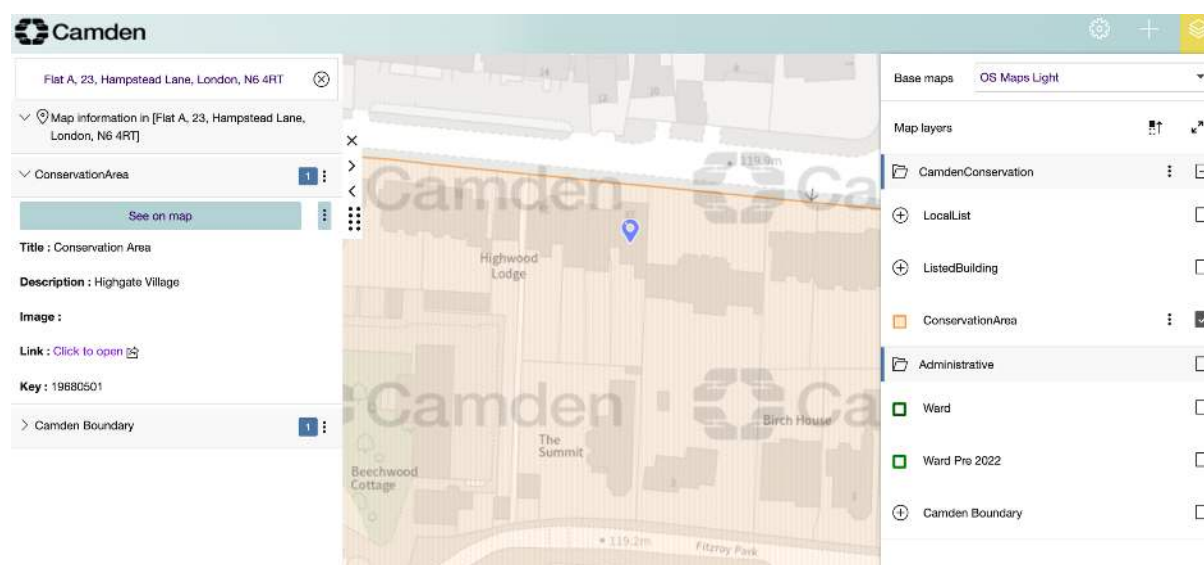


Image plate showing the desktop analysis results of the surveyed plot. (London Borough of Camden, 2024)

- 2.6 Works to protected trees require consent from the local planning authority. In the case of TPO's an application must be made. In the case of conservation areas a notification must be made. TPO applications take up to eight weeks, conservation area notifications take six weeks.
- 2.7 Certain exemptions apply; for example the removal of deadwood. In the case of dangerous trees 5-days written notice should be given to the local authority (in the cases of immediate danger the work should proceed, but the local authority contacted as soon as possible afterwards) with the works evidenced by photographs and video where possible. You should also check to ensure the works are exempt from the requirements of a felling licence.

<https://www.legislation.gov.uk/ukxi/2012/605/regulation/14/made>

- 2.8 It should be noted that planning consent overrides protected trees, where the works or removal are necessary for development to proceed and have been highlighted in the tree survey documents.
- 2.9 Bats. Under current legislation it is an offence to 'intentionally or recklessly disturb a bat' or 'damage, destroy or block access to the resting place of any bat'. For further details consultation must be made with the Statutory Nature Conservancy Organisation. Where relevant any current ecological surveys for the site will take precedence in this matter. Trees provide numerous 'potential roosting features' for a wide range of bat species. It is therefore crucial that any trees proposed for removal are checked by an appropriately competent person before any felling or ivy stripping works commence.

<https://www.bats.org.uk/advice/bats-and-the-law>

- 2.10 Birds. It is an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds must be avoided from late March to August. All birds, their nest and eggs are protected by law.

<https://www.rspb.org.uk/birds-and-wildlife/advice/wildlife-and-the-law/wildlife-and-countryside-act/>

3. Drawings

- 3.1 Appended to this report is a tree constraints plan and a tree assessment plan.
- 3.2 The tree constraints plan has been produced using an OS supplied .dwg (AutoCAD) base plan as no topographical survey was available. Tree positions and data have been applied using our survey handset as an onsite exercise with the constraints plan being produced as a PDF through Auto CAD.
- 3.3 An autoCAD .dwg file of the tree constraints is available on request for project stakeholders to utilise.
- 3.4 The *Tree Constraints Plan* shows the existing layout. For each tree the stem location is indicated and scaled according to its diameter, the canopy is indicated according to measurements taken along the four cardinal points of the compass. Root protection areas (RPAs) are indicated which are calculated according to the guidelines within BS 5837 (2012).
- 3.5 Where appropriate, the shapes of the RPAs have been amended to reflect actual site conditions or where trees have been heavily pruned. The 'original' RPAs are indicated as a dashed line whereas the amended RPAs are indicated as a solid line. Any variation to this approach will be highlighted on the appropriate plans.
- 3.6 The *Tree Assessment Plan / Arboricultural Impact Assessment* indicates the tree constraints with the proposals overlaid. Where applicable, this plan shows where works are proposed in Root Protection Areas and which trees are to be pruned or removed. This plan accompanies the Impact Assessment which is to be found in Section 4.
- 3.7 The *Tree Protection Plan (if applicable)* shows the protection measures that are to be installed during the construction phase. This plan accompanies an arboricultural method statement where applicable and commissioned.

4. Arboricultural Impact Assessment - Site Specific

Tree Quality Statement.

The tree cover at 23 Hampstead Lane predominantly consists of mixed broadleaf trees in poor condition, a couple of conifer trees in good condition and a poor quality pear tree. These trees are located in rear gardens, in an area that appears to have a good tree canopy. There is a mixed hedge to the front of the property.

4.1 Description of The Proposed Development

The drawings listed in the table below were used by ROAVR to produce the Arboricultural drawings referenced in this report. If your plans change (either before or after planning submission), then the tree drawings will require updating. This report cannot be submitted in support of a scheme that varies from the drawing reference number shown in box one below as the Impact Assessment (Section 4) will not be valid.

Drawing Name / No.	Date Issued To ROAVR	ROAVR Drawings Issue Date:
Block Plan Proposed	14/11/2024	14/11/2024

4.1.1. It is proposed to build a single storey detached garden room. The proposed building has been moved forward from the rear boundary of the property and reduced in size since the previous application was submitted.

4.1.2. The table below summarises the potential impact on trees due to various activities.

Trees Potentially Affected:

Tree or Tree Group	Impacts
T1	Off site tree, no direct impact, can be retained and protected
T2	Off site tree, expected root protection area and existing tree canopy extends into the proposed development area. See sections 4.4 and 4.5.
T3	Off site tree, root protection area and existing tree canopy extends into the proposed development area. See sections 4.4 and 4.5.
T4	Off site tree, no direct impact, can be retained and protected
T5	Off site tree, no direct impact, can be retained and protected
T6	Off site tree, no direct impact, can be retained and protected
T7	Off site tree, no direct impact, can be retained and protected
T8	Off site tree, no direct impact, can be retained and protected

T9	Off site tree, no direct impact, can be retained and protected
T10	Off site tree, no direct impact, can be retained and protected
T11	Off site tree, no direct impact, can be retained and protected
H1	Hedge, to front of property, no direct impact, can be retained and protected.

4.2. Tree Removal.

4.2.1. No trees are to be removed to facilitate the proposals.

4.3. Mitigation Planting.

4.3.1. No mitigation planting is required.

4.4. Impact on Tree Canopies.

4.4.1. The canopy height on T2 is approximately 2.5m above ground level, and the canopy height on T3 is approximately 1m above ground level, therefore the canopies on both these trees will require lifting to facilitate the development.

4.5. Impact on Tree Roots.

4.5.1. The proposed garden room extends into the root protection area of T3, and potentially the root protection area of T2 (the RPA could not be plotted for T2, due to Ivy preventing measurement of the stem diameter). Due to the encroachment into the RPA it is recommended that the proposed garden room is constructed using screw pile foundations, any excavation required is completed by hand, under the supervision of the project arborist, to minimise any potential impact on the tree roots.

4.6. New Surfaces.

4.6.1. No new hard surfaces are proposed within the Root Protection Areas of any trees.

4.7. Underground Services.

4.7.1. It is understood no underground services are to be installed through any Root Protection Areas.

4.8 Changes in Ground Levels.

4.8.1 No changes in ground level are proposed.

4.9 Soil Compaction.

4.9.1 The majority of tree roots lie within the upper soil horizons. This is because the availability of oxygen decreases with depth and roots need to breathe to stay alive. In addition, nutrients are more readily available in the form of organic matter close to the soil surface.

4.9.2. Healthy soils contain about 25% air space between solid particles. Increased loading of the soils caused by construction activity causes air to be squeezed out as the soil becomes compacted preventing roots from breathing. Even an increase in pedestrian activity may cause some soil compaction.

4.9.3 It is important therefore that ground compaction and soil disturbance over Root Protection Areas should be avoided during the construction phase. This may be done by installing protective fencing and ground protection measures as recommended within a tree protection plan.

4.10 Demolition Activities.

4.10.1 The tree protection measures specified within a TPP should be installed prior to the commencement of all demolition activities (including soil stripping) to prevent any detrimental impact on tree health. Where this is not practicable, demolition of structures within Construction Exclusion Zones shall be undertaken very early on in the demolition phase and the protective barriers installed immediately thereafter.

4.11. Hazardous Materials.

4.11.1 All hazardous materials (including cement and petrochemical products) will need to be controlled according to COSHH regulations in order to ensure there is no detrimental impact on tree health. Provision shall need to be made to ensure that cement and cement run-off are contained outside of all Root Protection Areas.

4.12. Cabins and Site Facilities.

4.12.1. Consideration should be given to the location of any site welfare facilities in terms of potential impact on trees. Where it is proposed to install cabins or site facilities in Root Protection Areas, the appointed arborist should be consulted and approval obtained from the local authority.

4.13. Boundary Treatments.

4.13.1. No changes are proposed to the existing boundary features that might impact on trees.

4.14. Impact of Retained Trees on the Development.

4.14.1. The canopies of T2 & T3 may require pruning in future to prevent branches impacting on the roof of the proposed garden room.

4.14.2. Adequate space has been allowed between the remaining retained trees and the proposed development works. Consequently the proposal shall not result in increased pressure to remove or prune any of the other retained trees.

4.15. Summary.

4.15.1. It is proposed to build a single storey detached garden room. The proposed building has been moved forward from the rear boundary of the property and reduced in size since the previous application was submitted, to reduce the impact on the retained trees.

4.15.2. It is required to use screw pile foundations, any excavation works must be completed by hand and under the supervision of the project arborist.

4.5.3. The appended AMS specifies the measures proposed to minimise all possible potential risks of damage to the retained trees.

5. Limitations

- 5.1 ROAVR has prepared this Report for the sole use of the above named Client/Agent in accordance with our terms of business, under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by us.
- 5.2 This Report may not be relied upon by any other party without the prior and express written agreement of ROAVR. The assessments made assume that the land use will continue for their current purpose without significant change. ROAVR has not independently verified information obtained from third parties.
- 5.3 This report, video walkthrough, data tables and raw data remain the copyright of ROAVR until such time as any monies owed are settled in full and the report may be withdrawn at any time.
- 5.4 This report, site visit, plans and conclusions are proportional to the proposals and in some cases a simple plan based impact assessment may be all that is required.
- 5.5 Important - to ensure fair allocation of resources, we allow you ten working days to review the report and issue any feedback, beyond that changes are chargeable.
- 5.6 For references and further information regarding tree survey process visit: <https://www.roavr-group.co.uk/roavr-group/survey/sp-3-arboriculture/>

Should you require any further information, please do not hesitate to contact us at any time.

Charlotte Morton
Consultant Arborist



Charlotte Morton

Prepared by: Charlotte Morton
Checked by: Peter Haine

Appendix 1 – Site Location



Google, 2024

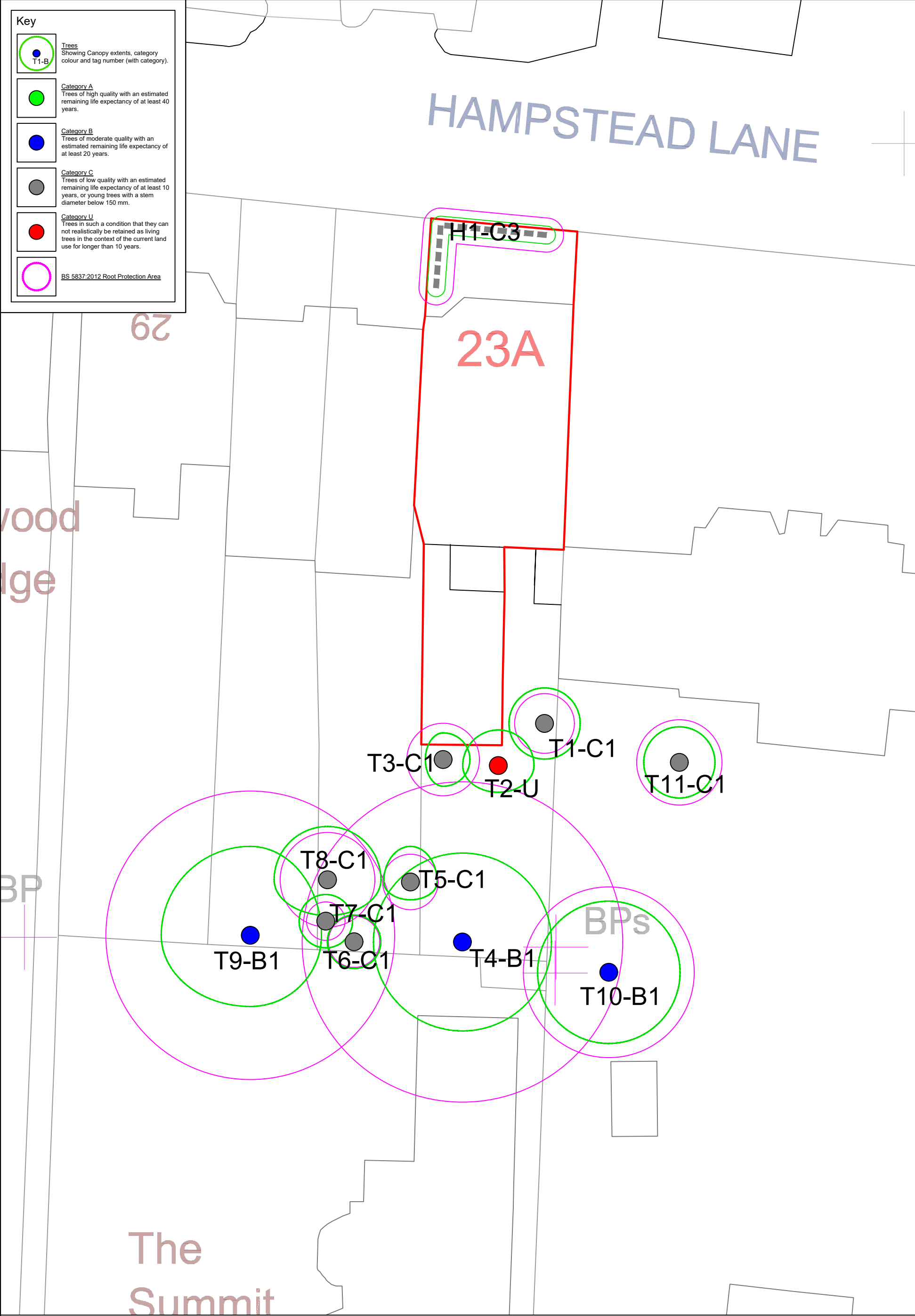
Appendix 2 – Arboricultural Data Tables

Tree Number	Species	Age Class	DBH	Height (crown height)	N	E	S	W	Condition	Life Expectancy	Physical Description	Comments	Managment Recommendations	RPA offset from stem.	Category Rating
T1	<i>Ilex aquifolium</i> (Holly)	EM	140	7(1)	2	2	2	2	Fair	10+	None	Off site.	None	1.68	C1
T2	<i>Pyrus</i> (Pear)	EM	160	7(2.5)	2	2	1.5	2	Poor	<10	Leaning West. Ivy on tree. Unable to inspect stem due to Ivy. Dieback in crown. Low bud/leaf density. Broken branches in crown.	Off site.	None	1.92	U
T3	<i>Ilex aquifolium</i> (Holly)	M	170	7(1)	1.5	1.5	1.5	1	Fair	10+	None	Off site.	None	2.04	C1
T4	<i>Acer pseudoplatanus</i> (Sycamore)	M	750	17(2)	5	5	5	5	Good	20+	None	Off site.	None	9	B1
T5	<i>Betula pendula</i> (Silver Birch)	EM	130	10(2)	2	1.5	1	1.5	Fair	10+	Leaning North.	Off site.	None	1.56	C1
T6	<i>Betula pendula</i> (Silver Birch)	SM	120	7(2)	1.5	1.5	1.5	1.5	Fair	10+	Unable to inspect stem due to undergrowth.	Off site.	None	1.44	C1
T7	<i>Betula pendula</i> (Silver Birch)	SM	90	7(2)	1.5	1.5	1.5	1.5	Fair	10+	Unable to inspect stem due to undergrowth.	Off site.	None	1.08	C1
T8	<i>Betula pendula</i> (Silver Birch)	EM	180,130	11(2)	3	3	2	3	Fair	10+	Unable to inspect stem due to undergrowth.	Off site.	None	2.66	C1
T9	<i>Taxus baccata</i> (Yew)	M	0,350,400,2	9(1.5)	5	4	4	5	Good	20+	Unable to inspect stem due to undergrowth.	Off site.	None	8.11	B1
T10	<i>Pinus sylvestris</i> (Scots Pine)	M	400	13(3.5)	4	4	4	4	Good	20+	Unable to inspect stem due to undergrowth.	Off site.	None	4.8	B1
T11	<i>Eucalyptus gunnii</i> (Cider Gum)	M	200	12(5)	2	2	2	2	Fair	10+	Poor shape & form. Unable to inspect stem due to Ivy. Unable to inspect stem due to undergrowth.	Off site.	None	2.4	C1
H1	X Cupressocyparis leylandii (Leyland Cypress), Ilex aquifolium (Holly)	Y	80	2.5(0.5)	0.5	0.5	0.5	0.5	Fair	10+	Tree located within hard surface area. Tree located within raised bed.	None	None	0.96	C3

Key to Arboricultural Data Tables

Tree Number	Reference no. T1, T2 etc. for trees; H for hedgerows; G for Groups and W for woodlands.
Species	Tree species <i>Fagus sylvatica</i> ; <i>Quercus robur</i> - Latin names.
Age Class	The estimated age class of the tree (relative to species) Y - Young SM - Semi-mature EM - Early-mature M - Mature OM - Over-mature or V - Veteran
Height (Crown Height)	Height of the tree in metres. (Height of the crown above ground level in metres)
Number of Stems	Number of clear stems above 1.5 metres
Diameter at Breast Height	Diameter of stem (mm) at breast height (1.5 metres above ground).
Crown Spread (N, S, E, W)	The maximum spread of the tree's canopy measured from the stem in four directions (North, East, South, West).
Life Expectancy	Estimated safe, usable life expectancy.
Physical Description	Details of tree type, quality, location etc
Comments	Any comments or remarks recorded by the surveyor
Management Recommendations	Recommendations (regardless of the development proposals if available) for removal, retention and/or remedial arboricultural works.
RPA offset from stem	Radius of the root protection area measured in metres
Category Rating	<p>Tree categorisation based on section 4.5 of BS 5837 (2012) Trees in relation to design, demolition and construction – Recommendations:</p> <p>A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. 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 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</p> <p>Subcategories: 1: Mainly arboricultural & aesthetic qualities 2: Mainly landscape qualities 3: Mainly cultural values, including conservation</p>

Appendix 3 – Arboricultural Plans



Key

T1-B

Trees

Showing Canopy extents, category colour and tag number (with category).

Category A

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

Category B

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

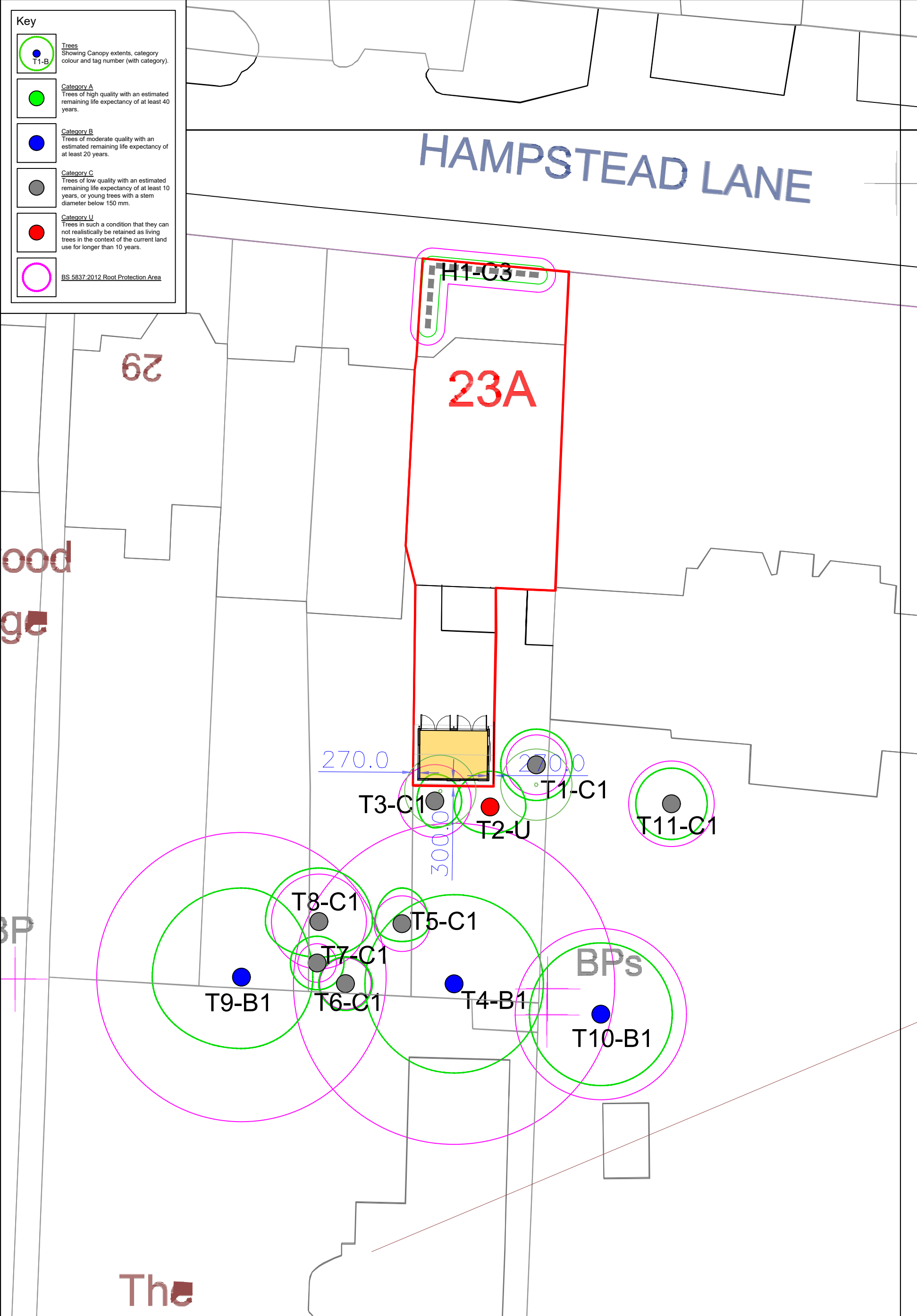
Category C

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

Category U

Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

BS 5837:2012 Root Protection Area



ROAVR Group, Marr House
Beechwood Business Park, Inverness, IV2 3BW
www.roavr-group.co.uk
support@roavr-group.co.uk
01463 667302

Drawing Title	Tree Assessment Plan		Scale/Sheet	1:200 @ A3		Date		04/11/2024	
Client	Oliver Wright		Drawing No	24_5837_10_76		Rev	1	Drawn By	PH
Site/Project	Flat A 23 Hampstead Lane, London, N6 4RT		<div>General Notes</div> <div>Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.</div> <div>Depictions of tree canopies are based on measurements taken to four cardinal compass points.</div> <div>No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.</div> <div>The original of this drawing was produced in colour; a monochrome copy should not be relied upon.</div> <div>All rights reserved.</div>						

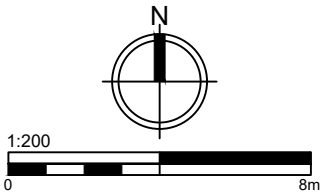


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3. Tree Works Schedule
4. Tree Protection Barriers Detailed Specification
5. Ground Protection Measures Detailed Specification
6. New Surfaces Detailed Specification
7. Limitations

Appendix 1 – Site Location

Appendix 2 – Tree Protection Plan

Validation Statement for the Local Planning Authority.

This report includes the following for LPA validation purposes:

- An **arboricultural method statement** which specifies tree protection measures and implementation strategy
- **Appendices** including the **tree protection plan**

1. Method Statement [Introduction and Overview]

1.1. Definition of Terms

Some terms used within the Arboricultural Method Statement have very specific meanings. These are defined below:

Root Protection Area (RPA). This is a theoretical area of ground around a tree where the roots are likely to proliferate. Ground disturbance in this area should be minimised in order to avoid significant impact on tree health. RPAs are indicated on all plans accompanying this report as a red or pink line.

Construction Exclusion Zone (CEZ). These zones are created to protect roots and canopies from inadvertent damage by construction activity. They are usually fenced off by protective barriers throughout the entire construction phase. No works are permitted in these zones other than minor landscaping works which do not require a change in ground level. Where practicable the entire Root Protection Area and the area beneath the tree canopy shall be treated as a Construction Exclusion Zone. These zones are shown on the Tree Protection Plan.

Restricted Activity Zone (RAZ). It is not always possible to create a Construction Exclusion Zone over the entire RPA. This is because access may be required or some works may be proposed within the RPA. In such circumstances a Restricted Activity Zone is created where limitations are placed on construction activity. Ground protection measures may be specified or the Restricted Activity Zone may be fenced off throughout part of the construction phase. See the legend on the Tree Protection Plan to identify these zones.

1.2. Tree Protection Barriers - Overview

The Tree Protection Plan indicates the location of all proposed tree protection barriers.

The barriers shall be installed prior to the commencement of any localised construction activity including soil stripping and delivery of materials. A detailed specification of the barriers can be found in sections below.

The tree protection plan also indicates where ground protection measures shall be installed / maintained as specified in sections 1.7 onwards (Restricted Activity Zones).

1.3. Planning Status

Tree protection measures specified within this report should be agreed with the local authority so that they may be conditioned upon planning consent.

The site manager must be familiar with all aspects of this Method Statement and should liaise with the author of this report for clarification, or regarding any unforeseen issues where trees may be impacted upon.

A copy of this Method Statement shall be available on-site at all times. All personnel working on the site shall be made aware of any sections appertaining to their work. This includes short term contractors and persons responsible for deliveries and installation of services.

1.4. Overview of Protection Measures

Below is a summary of the proposed protection measures:

Tree no.	Protection Measures	Timeline
T1	Off site tree, retain. No protection required	Pre-start
T2	Off site tree. Retain. Development within RPA ground protection required where possible.	Pre-start
T3	Off site tree. Retain. Development within RPA ground protection required where possible.	Pre-start
T4	Off site tree, retain. No protection required	Pre-start
T5	Off site tree, retain. No protection required	Pre-start
T6	Off site tree, retain. No protection required	Pre-start
T7	Off site tree, retain. No protection required	Pre-start
T8	Off site tree, retain. No protection required	Pre-start
T9	Off site tree, retain. No protection required	Pre-start
T10	Off site tree, retain. No protection required	Pre-start
T11	Off site tree, retain. No protection required	Pre-start
H1	Hedge to front of property. No protection required	Pre-start

The above measures are described in more detail throughout the remainder of this section.

1.5. Timing of Operations

Activity within the site shall be phased according to the following chronology:

<i>Order Phase Activity</i>	Phase Name	Works required
1st Phase	Pre-construction phase	Undertake a pre-start meeting with the builder, client and ACoW
2nd Phase	Protection phase	Install HERAS tree protection fencing and signage as highlighted on the TPP
3rd Phase	Ground Protection	Install any specified ground protection boarding as highlighted on the TPP
4th Phase	Construction phase	Construction works commence with regular ACoW visits
5th Phase	Post Construction Phase	Remove tree protection measures and carryout any remedial works such as alleviation and radial mulching

Restrictions on Activities – Specific Zones

1.6. Construction Exclusion Zones

Within Construction Exclusion Zones (shaded purple on the Tree Protection Plan) the following restrictions shall apply:

Tree Protection Barriers shall be erected and maintained throughout the entire project as indicated on the Tree Protection Plan and specified in Section 4 - Tree Protection Barriers.

No construction activity whatsoever shall occur.

No vehicles or plant machinery shall be driven or parked.

No tree works, other than those specified in this report shall be undertaken.

No alterations of ground levels or conditions.

No chemicals or cement washings permitted.

No excavation whatsoever shall occur.

No temporary structures.

No spoil shall be stored.

No fires shall be permitted.

All hazardous materials (including non-essential cement products) shall be forbidden.

Where hard surfaces are to be removed, this shall be done using hand tools or mechanical excavators operating from outside the Construction Exclusion Zone and marshalled by the appointed arborist.

Any structures shall be removed manually and without mechanical excavation.

1.7. Restricted Activity Zone A

Within these zones (shaded yellow on the Tree Protection Plan) tree roots are likely to be present. Access will be required to facilitate construction and some resurfacing works may be required. The following restrictions shall apply:

Any resurfacing shall be done strictly in accordance with the Guidelines in APN12 New Surfaces.

Removal of existing structures such as walls, steps and hard surfaces shall be undertaken using hand tools or a mechanical excavator operating from outside the Restricted Activity Zone and carefully marshalled by an appointed arborist.

A suitable load spreading surface shall be installed and/or maintained as specified in Section 5 – Ground Protection Measures. This shall remain in place throughout the entire construction phase.

No excavation shall occur in this zone without consulting the appointed arborist and obtaining approval from the local authority.

Storage of materials shall be limited to that which is required for the task in hand. Heavy materials that require storage for more than two days shall be stored outside the Restricted Zone.

No spoil shall be stored.

No fires shall be permitted.

All hazardous materials (including non-essential cement products) shall be forbidden.

1.8. Restricted Activity Zone - Installation of Screw Piles and Services

The specific method adopted will vary between contractors. However, the following restrictions will apply and must be adhered to:

No excavation or ground disturbance shall occur beyond the footprint of the garden room into the root protection areas of T2 and T3.

No plant machinery shall operate beneath the canopy or within the root protection areas of T2 and T3.

Ground protection measures should be installed to limit ground compaction within the RPA of T2 and T3 during the pile installation phase.

The appointed arborist shall be invited to oversee the initial stages of any pile installation.

Each pile position shall be checked for significant roots by inserting a steel probe a minimum of 600mm into the ground, if a significant root is encountered then the pile must be relocated slightly to avoid the root.

No reduction in ground level is permissible.

Restrictions on Activities – Throughout the Site

1.9. Canopy Protection

In order to protect tree canopies the following restrictions shall apply throughout the site:

No machinery shall pass beneath the crowns of trees without being carefully marshalled in order to ensure that no branches are damaged.

If materials require installation or delivery beneath tree canopies, this shall be done without the use of overhead cranes.

If materials are to be installed or delivered close to tree canopies (but not beneath them) and a crane is required, they shall be carefully marshalled in order to ensure that branches are not accidentally damaged.

1.10. Site Hoarding

If site hoarding shall be installed over the Root Protection Area of any tree, the following restrictions shall apply:

Ground levels shall be maintained as existing.

Post holes shall not exceed 300mm x 300mm.

No post hole shall be excavated within 1.5m of any tree stem.

Post holes shall be excavated using hand tools or by a post-hole auger attached to plant machinery sited outside the Root Protection Area(s).

Roots in excess of 25mm shall be retained wherever possible.

Roots in excess of 10mm shall be pruned with sharp secateurs.

Pruning shall be minimal and only undertaken where absolutely necessary to facilitate the site hoarding. It shall be undertaken by a reputable tree surgeon working to BS 3998 (2010).

Cement products shall be mixed away from Root Protection Areas (see Section - 1.19 Hazardous Materials).

Site hoarding may be installed in place of the specified tree protection measures subject to the approval of the local authority with regard to its location and specification.

1.11. Fencing.

Where fence posts are to be installed within Root Protection Areas, the following restrictions shall apply:

All post holes shall be excavated by hand and kept as narrow as possible (maximum diameter 300mm).

Exploratory post holes shall be dug before committing to post / panel positions. If any roots in excess of 25mm are encountered they are to remain intact and the post hole shall be relocated slightly. The fencing system must permit such flexibility (i.e. where fixed panel widths are used, all post holes must be excavated before committing to the final location).

Any roots in excess of 10mm which are severed shall be neatly pruned back with secateurs. This will encourage healing and reduce the likelihood of infection.

Hedges may be planted within Root Protection Areas using hand tools to minimise excavation.

1.12. Demolition and Initial Ground Works

No demolition, removal of surfaces, or soil stripping shall commence until the protective fencing and ground protection measures are installed to the satisfaction of the local authority.

1.13. Underground Services

No underground services (including soak-aways) shall be located in any part of the Construction Exclusion Zones or Restricted Activity Zones unless done so in a manner detailed in a specific Method Statement and approved by the local authority.

1.14. Lighting, Bollards, CCTV and associated Cables

If any of the above are to be installed close to tree canopies or within Root Protection Areas of retained trees, installation methods shall be detailed in a specific Method Statement and approved by the local authority. Consideration should be given to the following:

Pruning of branches to enable sufficient clearance for light and views. Branches should be removed to the branch collar as per British Standard 3998 (2010).

Post holes must be excavated by hand or using an appropriate sized auger. No other form of mechanical excavation may be used.

Wherever possible, cables should be routed in a direction directly away from the tree stem rather than tangentially across the rooting zone. The location of all such cables shall be determined after consultation with the appointed arborist and approval by the local authority.

1.15. Use of Heavy Plant

All machinery operatives are to be made aware of any Construction Exclusion Zones and Restricted Activity Zones that apply to this site (see the Tree Protection Plan).

All machinery operatives are to respect these zones and ensure that no damage occurs to trees due to the careless use of machinery.

Mechanical excavators should have tracks rather than wheels to help spread their load. They should be carefully marshalled when working close to tree canopies.

1.16. Scaffolding

If scaffolding is required in areas containing ground protection measures, the protective boards shall need to remain in-situ and be strengthened and stabilised to bear the weight of scaffold poles.

Prior to the installation of any scaffolding within 0.5m of any tree branches, the appointed arborist shall be consulted to specify any pruning works that may be required.

1.17. Siting of Cabins and Storage of Materials

Cabins and heavy building materials may be located or stored anywhere outside of Construction Exclusion Zones and Restricted Activity Zones.

Any proposal to install cabins or materials within these zones shall be agreed in writing with the local authority prior to installation.

It may be acceptable to locate site cabins such that they act as a tree protection barrier and replace the specified protective fencing. Where this is being considered, written approval must be sought from the local authority.

1.18. Pedestrian Paving

If it is proposed to install new pedestrian surfaces over Root Protection Areas, excavation shall be limited to the removal of existing turf/vegetation plus an additional 50mm. Excavation shall be undertaken using hand tools only. Porous materials are preferred but not essential if the new surface covers less than 10% of the Root Protection Area. Paving with a thickness of 50mm bedded on mortar, or sand, bearing directly onto the ground, with a finished surface level with existing ground levels will be acceptable. No retaining kerbs shall be used.

1.19. Hazardous Materials

Any mixing of cement based materials shall take place outside the Construction Exclusion Zones and Restricted Activity Zones. Where cement is to be mixed on sturdy plastic sheeting e.g 1200 gauge DPM considerable distances from trees and water run-off cannot enter Root Protection Areas.

All other chemicals hazardous to tree health, including petrol and diesel, shall be stored in suitable containers as specified by current COSHH Regulations, and kept away from Root Protection Areas.

1.20. Removal of Tree Protection Barriers

This will be done after all major construction work is complete. Vehicular access will not be permitted within the Construction Exclusion Zones.

The local authority tree officer shall be made aware that the fencing is to be removed.

2. Site Inspection

2.1. Inspection Schedule

In order to ensure that the trees are adequately protected it shall be necessary to periodically monitor the works. This will be done by the local authority tree officer or an appointed arborist (Arboricultural Clerk of Works) who will provide the tree officer with a copy of inspection details.

<i>Order Activity</i>	<i>Phase</i>	Phase Name	Works required
1st Phase		Pre-construction phase	Pre-start ACoW visit with all interested stakeholders
2nd Phase		Protection phase	ACoW visit to sign off tree protection measures
3rd Phase		Ground Protection	ACoW visit to sign off tree protection measures
4th Phase		Construction phase	ACoW visit to supervise any piling works
5th Phase		Post Construction Phase	ACoW visit to supervise removal of protection measures and final site sign off.

Example ACoW sheet.



Woodland Solutions (Northern) Ltd t/a ROAVR Group
The Green House
Beechwood Business Park North
Inverness
IV2 3BL
www.roavr-group.co.uk
T: 01463 667302

SITE SUPERVISION FORM - ARBORICULTURAL
CLERK OF WORKS

DATE	
CLIENT	
TELEPHONE NUMBER	
E-MAIL	

TERMS AND CONDITIONS FOR THE PROVISION OF ARBORICULTURAL CONSULTANCY

Site:	
Inspected by:	
Site Manager:	
Date of Inspection:	

Tree Protection Fencing.

Comments/Actions:

Ground Protection.

Comments/Actions:

Additional Comments.

Remarks:

I am aware of the tree protection requirements for this site and understand no retained trees must be damaged.

Signed:

Dated:

Name:

Company:

3. Tree Works Schedule

Tree Works Specification

3.1.1. The following table specifies the tree works which will be required prior to the commencement of construction activity:

<i>Tree no.</i>	Works Required	Phase Timing
T2	Crown lift tree to give 4m clearance on the north side of the canopy.	Pre-start
T3	Crown lift tree to give 4m clearance on the north west side of the canopy.	Pre-start

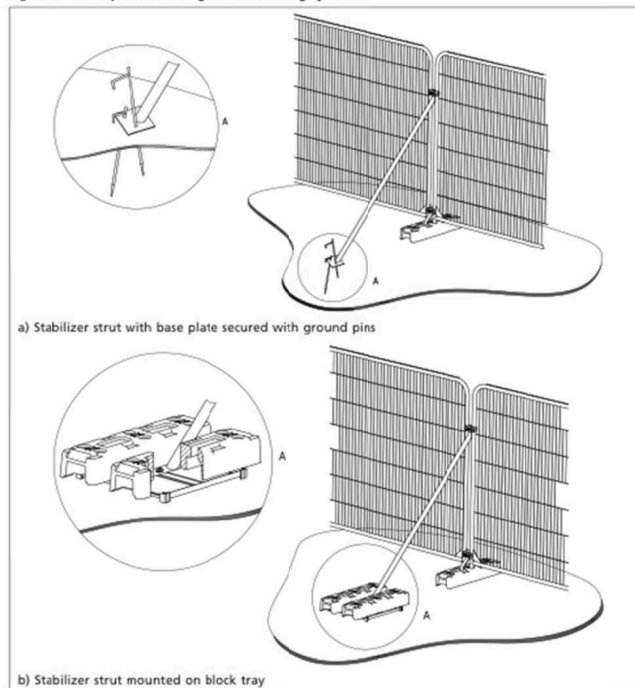
4. Tree Protection Barriers Detailed Specification

Tree Protection Fencing

The purpose of tree protection barriers is to keep construction activity away from Restricted Activity Zones or Construction Exclusion Zones. They should be appropriate to the nature and proximity of activity within the site. The barriers should be erected prior to the commencement of all activity including demolition, soil stripping and delivery of materials and demolition (except where existing structures require demolition to enable the barriers to be installed).

Barrier systems are specified below and should be installed according to the legend on the Tree Protection Plan.

Figure 3 Examples of above-ground stabilizing systems



Suitable weather-proof notices should be displayed to identify tree protection zones. They should state the purpose of the fencing and that it should not be moved, or traversed, other than by authorised personnel.



Example signage.

Plywood Boxes. [If Shown On TPP]

The CEZ or Construction Exclusion Zone offers protection to the stems of most of the trees on development sites.

However often there is an existing hard surface in place OR placing HERAS panels is complicated due to the trees location.

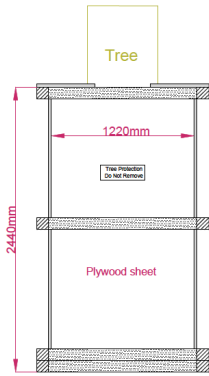
Trees closest to the development project or areas where contractors may access / park / deliver materials may require additional protection in the form of a timber box to be constructed around the tree's stem to prevent the risk of accidental damage caused by collision or abrasion.

Protective boxes should be constructed from sheets of 20mm marine plywood on suitable bearers of pressure treated softwood.

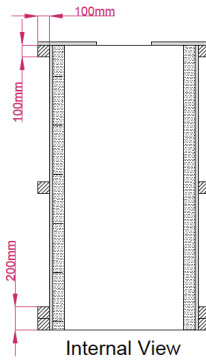
The box must not in any way be secured to the tree it is designed to protect. Tyres or polystyrene boarding can be placed between the tree's stem and the ply box to provide additional impact protection.

The sheets of ply should be closely 'buted' to avoid gaps that could be exploited and the box must be installed pre-start and not removed until all construction works are completed and the site is cleared. Access and egress is often the time that retained trees are struck and damaged.

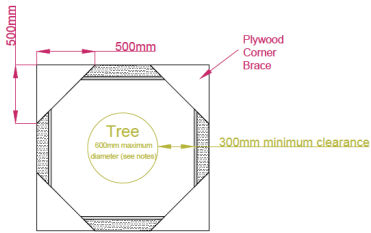
Used correctly this form of protection is extremely effective.



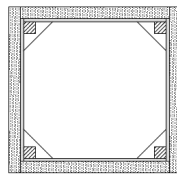
External View



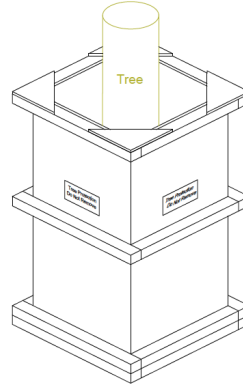
Internal View



Top View



Bottom View



Notes:

Constructed using 25mm (or greater thickness) external plywood and 100x100mm (or greater) timber. Fittings to consist of screws, bolts or nails.

This drawings box dimensions are based on tree diameters up to 600mm diameter (measured at stem base to include any buttress roots). For larger diameters increase construction dimensions accordingly to maintain clearance of 300mm around tree base. For example a box width of 1800mm accommodates trees up to 1200mm diameter and a box width of 2440mm accommodates tree diameters up to 1840mm.

In no event must the construction be in contact with, or be fixed too, any part of the tree.

If top conflicts with branches then reduce height accordingly.

"Tree Protection - Do Not remove" or similar signs to be fixed to each side.

Finished construction to be surrounded on all sides by robust barrier such as tight fitting railway sleepers, concrete blocks, water filled bollards etc.

Client			
Project			
Drawing Title Tree Protection Box			
Scale 1:25@A3	Date Feb 2017	CS CS	CS CS
Drawing Number	Rev	1	

5. Ground Protection Measures Detailed Specification

Where indicated on the Tree Protection Plan (Restricted Activity Zone A), the soil may contain tree roots, and ground protection measures should be implemented. Where Root Protection Areas are outside of the Construction Exclusion Zone, the soil may be subject to compaction due to general construction activity (including pedestrian activity and use of plant machinery).

In order to minimise compaction, it is proposed to ensure that a suitable load-spreading surface is in place at all times.

Any existing hard surfacing may be retained and reinforced (where Construction activity is applicable and adequate), otherwise suitable new ground protection fencing measures shall be installed. The ground protection shall need to be able to adequately spread the load of construction traffic. Where existing hard surfacing is to be retained, it shall not be necessary to install additional ground protection measures. However, the hard surfacing must be firm enough to spread the load of any traffic passing overhead.

Where only pedestrian traffic will occur, the ground protection measures may be as simple as timber boards, or scaffold planks installed directly onto a geotextile fabric on the ground. The ground should first be made even by raking, or by adding a few centimetres of sand or woodchip. Alternatively the boards may be supported by a scaffold framework. The scaffold may be founded on poles driven into the ground and/or onto blocks (to raise the scaffold) with additional couplings to make the framework secure.

Where only light vehicles are to operate (e.g. barrows, trolleys or occasional cars), thick wooden boards or scaffold planks should also suffice, though at least 150mm of compressible woodchip will need to be installed first to help spread the load. Sturdier systems are specified below:

Where cars will regularly park or heavier vehicles/plant machinery will occasionally operate, sturdier ground protection measures will be required such as metal road plates, or purpose built synthetic road mats over a compression resistant layer such as 150mm of woodchip or 100mm of a 3D cellular confinement system in-filled with 7–40mm angular gravel (e.g. Cellweb™).

A temporary concrete slab may also be considered as a suitable load spreading platform. Where a pile driver needs to operate, a concrete slab may be the preferred option.

Where existing structures need to be removed, this shall be done with temporary ground protection measures in place to enable this to be achieved without compacting soils.

The ground protection measures shall be installed and approved before commencement of demolition and construction activity and before the arrival of plant machinery or materials. They shall remain in place until all heavy construction activity is complete or until they are due to be replaced with a new hard surface.

6. New Surfaces Detailed Specification

Resurfacing an Existing Hard Surface

If it becomes necessary to replace an existing hard surface over Root Protection Areas the following restrictions shall apply:

The existing hard surfacing shall remain in place throughout the entire construction project or until it is due to be replaced with a new surface. If the hard surfacing is removed for any reason it shall immediately be replaced by ground protection measures as specified until a permanent hard surface is installed. No vehicle shall pass over this zone unless a permanent hard surface or ground protection is in place.

No excavation in excess of the existing sub-base shall occur. The existing sub-base may be retained undisturbed and incorporated into the new structure.

Hand operated tools shall be used to lift existing surfaces. Mechanical excavators may be used so long as they operate from outside Root Protection Areas and are carefully marshalled by the appointed arborist or local authority tree officer.

Any exposed roots in excess of 25mm are to be retained. Before the new surface is installed, 25mm of soil (or river sand) and a geotextile membrane shall be laid over the root. Until such times, the root shall be adequately protected from pedestrian damage using timber and sand.

Any new sub-base shall not contain fine particles. Coarse sand or larger particles shall be acceptable. 7-14mm gravel is ideal.

A 3 dimensional cellular confinement system may be incorporated into the sub-base and is encouraged. However, this is not considered compulsory since the resurfacing operation shall not cause a deterioration of rooting conditions beneath the existing driveway.

No salt or lime based products are to be incorporated within the sub-base.

Where the existing surface is porous, it shall be replaced with a new surface which is equally as porous. Where the existing surface is impermeable (e.g. concrete or asphalt), replacement with a porous surface is encouraged but not compulsory.

7. Limitations

- 7.1 ROAVR has prepared this Report for the sole use of the above named Client/Agent in accordance with our terms of business, under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by us.
- 7.2 This Report may not be relied upon by any other party without the prior and express written agreement of ROAVR. The assessments made assume that the land use will continue for their current purpose without significant change. ROAVR has not independently verified information obtained from third parties.
- 7.3 This report, video walkthrough, data tables and raw data remain the copyright of ROAVR until such time as any monies owed are settled in full and the report may be withdrawn at any time.
- 7.4 This report, site visit, plans and conclusions are proportional to the proposals and in some cases a simple plan based impact assessment may be all that is required.
- 7.5 Important - to ensure fair allocation of resources, we allow you ten working days to review the report and issue any feedback, beyond that changes are chargeable.
- 7.6 For references and further information regarding tree survey process visit: <https://www.roavr-group.co.uk/roavr-group/survey/sp-3-arboriculture/>

Should you require any further information, please do not hesitate to contact us at any time.

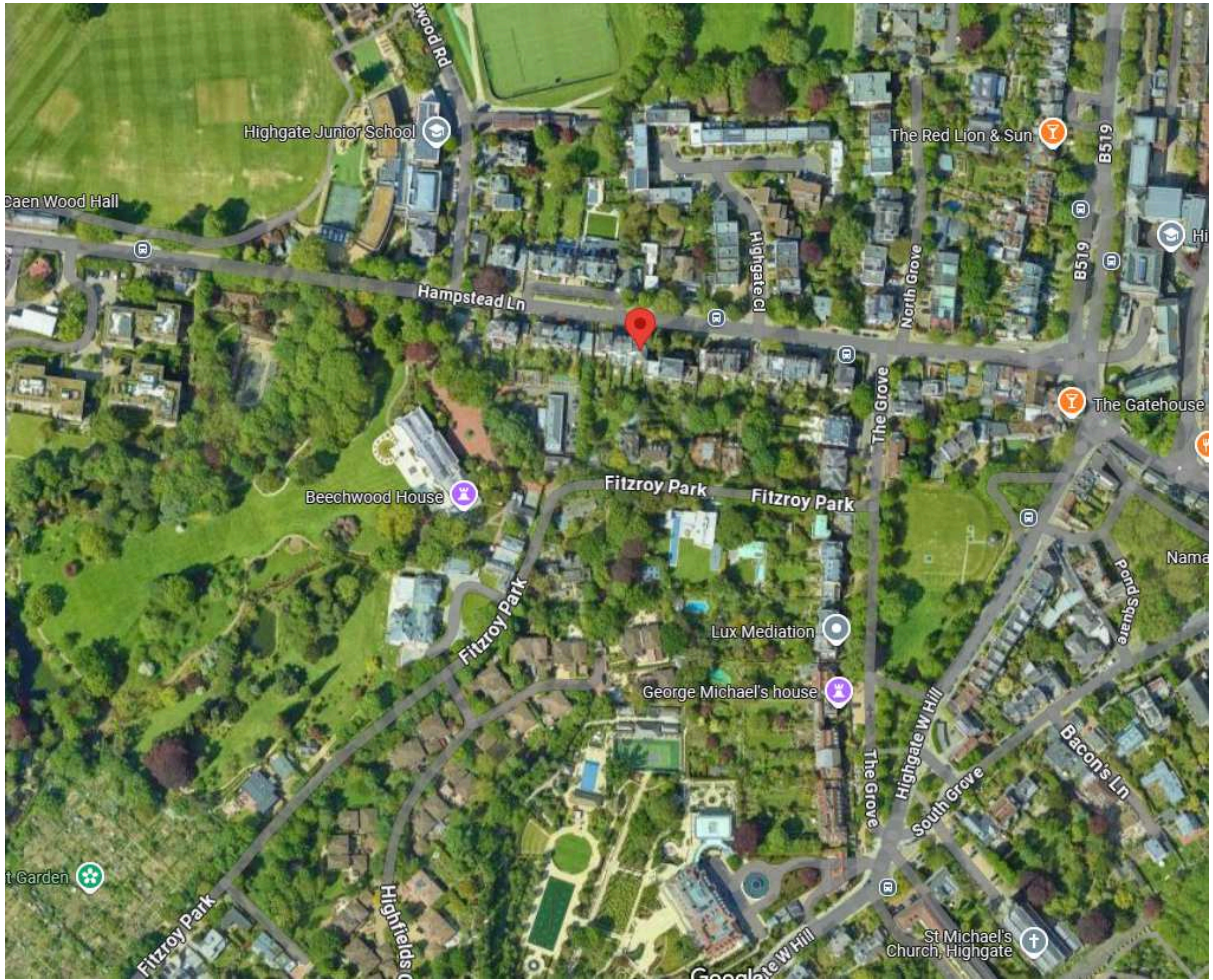
Charlotte Morton
Consultant Arborist

Charlotte Morton

Prepared by: Charlotte Morton
Checked by: Peter Haine



Appendix 1 – Site Location



Google, 2024

Appendix 2 – Tree Protection Plan

Key

T1-B

Category A

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

Category B

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

Category C

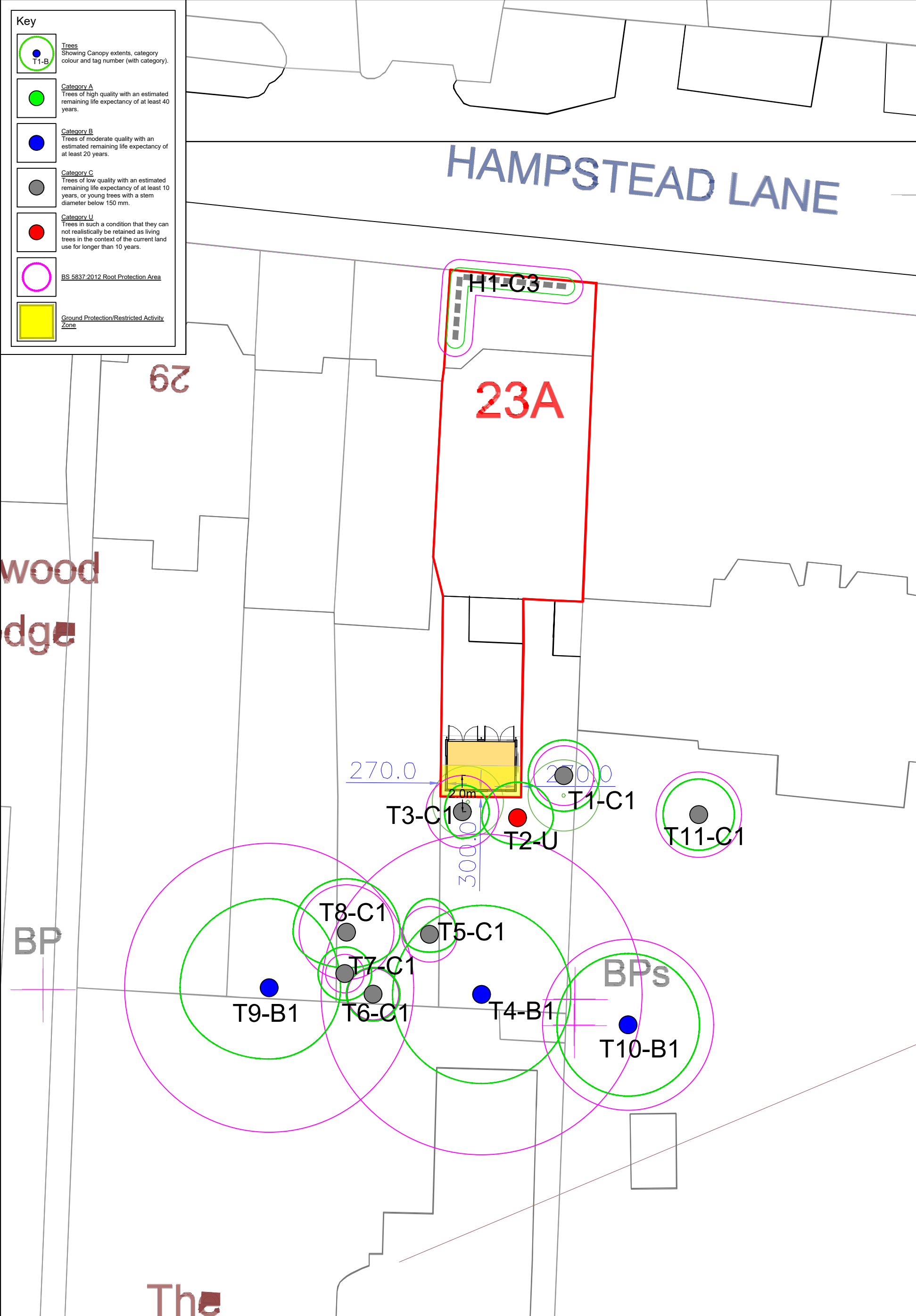
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

Category U

Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

BS 5837:2012 Root Protection Area

Ground Protection/Restricted Activity Zone



ROAVR | GROUP

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Drawing Title		Scale/Sheet		Date	
Tree Protection Plan		1:200 @ A3		19/11/2024	
Client		Drawing No		Rev	Drawn By
Oliver Wright		24_5837_10_76		1	PH
Site/Project		Checked By			
Flat A 23 Hampstead Lane, London, N6 4RT		MH			
		<div>General Notes</div> <div>Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.</div> <div>Depictions of tree canopies are based on measurements taken to four cardinal compass points.</div> <div>No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.</div> <div>The original of this drawing was produced in colour; a monochrome copy should not be relied upon.</div> <div>All rights reserved.</div>			

