BS 5837 Arboricultural Report

Impact Assessment & Method Statement









Crown Ref: 10732 Site: 68 Caversham Road, London

Author: Joe Taylor Date: 8th April 2021

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1. Introduction

1.1. Instruction

1.1.1. We are instructed by Caz Stuart to:

- Undertake an Arboricultural Survey at 68 Caversham Road, London and assess all trees potentially within influencing distance of proposed development within the site.
- Plot the trees on a Tree Constraints Plan and record the data in a Tree Data Schedule.
- Provide an overview of the site and any management recommendations.
- Determine if any of the trees are growing within a conservation area or are protected by a tree preservation order.
- Provide guidance for architects or developers to enable them to understand and design within the existing tree constraints.
- Assess the potential impact of the development proposals and provide guidance as to appropriate mitigation measures.
- Produce an Arboricultural Impact Assessment for submission to the local authority once the design has been finalised.
- Produce a Tree Protection Plan and Arboricultural Method Statement specifying how
 the retained trees shall be protected from inadvertent damage by demolition or
 construction activity.

1.2. Scope and Purpose of the Report

- 1.2.1. This report is designed to accompany a planning application for development proposals at the above site. Its purpose is to assist and inform the planning process. It is produced according to the guidance and recommendations within BS 5837: 2012 Trees in Relation to Design, Demolition and Construction.
- 1.2.2. The accompanying Arboricultural Method Statement specifies the principles to be adopted during construction and demolition that will minimise any impacts on trees. However, specific construction activities proposed within Root Protection Areas may need to be agreed in more detail if requested by the local authority at the reserved matters stage (for an outline planning applications) or via planning conditions.

1.3. References

1.3.1. We have liaised with the our client and studied topographical surveys and projected ground levels to attain an adequate understanding of the project to enable us to carry out an accurate assessment of the proposals and to specify suitable tree protection measures.

1.4. Survey Details and Findings

- 1.4.1. A visual ground level inspection of all trees was undertaken on the 10th of February 2019 by Ivan Button. No climbed inspections or specialist decay detection were undertaken. Details of how the survey was undertaken can be found in Appendix 1.
- 1.4.2. The tree locations shown on the accompanying plans which are reproduced in Appendix 6 have been plotted according to measurements taken on site.



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1.4.3. The findings of the survey are presented in The Tree Data Schedule which is provided as a separate document as well as being appended to the end of this document within Appendix 6. The vegetation is further discussed in Section 3.

1.4.4. A definition of the Retention Categories can be found in Appendix 1. All other terms used within the Tree Data Schedule are defined and explained in Appendix 2. A more detailed description of the survey method is detailed in Appendix 3.

1.5. Author

1.5.1. This report was compiled by Joe Taylor - FdSc (Arboriculture), M. Arbor A. Details of the author's experience that qualify him to produce such a report are detailed in Appendix 4.

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2. Site Overview

2.1. Brief Description

- 2.1.1. Number 68 Caversham Road is a terraced three-storey residential property with a small garden to the front and larger garden to the rear.
- 2.1.2. The front garden measures approximately 7m x 6m and contains no significant vegetation.
- 2.1.3. The larger rear garden (see Photographs 1 6) measures approximately 22m x 6m and contains three Retention Category C trees (T1, T2 and T3), a small Cabbage Palm and mixed shrubs.
- 2.1.4. In the adjacent garden of Number 66, there are two further Retention Category C trees (T4 and T5). It is likely that the roots of these trees extend into the site.
- 2.1.5. The site is a rectangular plot of land and is generally flat with no abrupt level changes.
- 2.1.6. The Tree Constraints Plan and Tree Data Schedule (see Appendix 6) should be referred to for descriptions and locations of all trees.

2.2. Coordinates

2.2.1. The site coordinates are 51°32'54.74"N 0° 8'7.31"W and the altitude is approximately 38m above sea level¹.

2.3. Survey Extent

2.3.1. The area indicated below² shows the extent of the survey.



¹ To access satellite imagery and street views of the site these co-ordinates may be entered into: http://maps.google.co.uk/

² Image taken from Google Earth and may not be current.

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3. Vegetation Overview (independent of proposals)

This section summarises all the recommendations within the Tree Data Schedule regardless of whether trees are to be retained, felled or pruned to facilitate the proposed development. It does not specify works that may be required to facilitate the development proposals. The protection status of the trees is also reported in this section.

3.1. Preliminary Management Recommendations

3.1.1. The trees were mostly deemed to be in an acceptable condition, with the only defects being some scattered dead branches throughout the canopy of T1. Consequently, no remedial works have been recommended.

3.2. Future Inspections

3.2.1. The table below suggests a schedule of future inspections based on the condition and location of each tree:

Inspection	Tree Number
Frequency	
(years)	
0.5	None
1	None
1.5	T1
3	T2, T3, T4 and T5

3.2.2. The trees should be inspected sooner if there is a noticeable decline in their condition or following extreme weather events.

3.3. Tree Protection Status – Site Specific

- 3.3.1. On the 12th of February 2021, we were informed, by Rav Curry of London Borough of Camden that:
 - The site lies within the Bartholomew Conservation Area.
 - There are no tree preservation orders affecting trees within the site.
 - There are no tree preservation orders immediately adjacent to the site.

3.4. Tree Protection – General Notes

- 3.4.1. Where trees are located in a conservation area (but not protected by a TPO), works are not permitted without first giving the local authority 6 weeks' notice of intention. During this time the local authority may elect to create a tree preservation order or to inform the applicant that they have no objection to the proposed works. If the local authority does not respond within 6 weeks, then the intended work may be undertaken. Note: the local authority cannot refuse consent for works to trees within a conservation area; they may only create a tree preservation order if they wish to have further control over what works are undertaken.
- 3.4.2. Where planning permission is granted and tree works have been approved as part of the planning consent, no further application is required in respect of protected trees and no further notice is required in respect of trees within a conservation area.

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3.5. Species Present – Additional Information

3.5.1. The table below contains general information about the tree *species* (rather than the actual tree *specimens*) included in the survey. Its purpose is to assist readers who are unfamiliar with the characteristics of the various species.

Species	Typical Height at Maturity (m)	Typical Canopy Spread at Maturity (m)	General Notes
Ash	25	18	Large deciduous tree with a straight bole and a high open domed crown. Native to Britain and commonly found in woodlands and adjacent roadsides. Not suitable for small gardens. Easily identified by its oppositely arranged pinnate leaves and black buds. Branches are relatively brittle resulting in a fairly high incidence of small branch failure in windy conditions. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Fraxinus+excelsior for more info.
Elder	8	8	Deciduous tree native throughout Europe, N Africa and W Asia. Untidy, shrubby habit. Very fast growing. Covered in dense creamy flowers and deep red berries which are excellent for making wine. Visit http://www.pfaf.org/user/Plant.aspx?LatinName=Sambucus+nigra for more info.
Strawberry Tree	10	10	Relatively small tree native to the Mediterranean with a dense, evergreen crown. Tolerant of maritime exposure. Produces drooping clusters of small white or pink flowers in late autumn, Strawberry like fruit ripens afterwards. The fruit is edible, but undesirable. Visit https://pfaf.org/User/Plant.aspx?LatinName=Arbutus+unedo for more info.

3.5.2. The figures quoted regarding typical height and canopy spread should be treated as approximate. Actual heights and spreads vary according to several environmental factors such as soil conditions, climate and presence of competing vegetation. The figures quoted are not the maximum dimensions that the species may attain.

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4. Arboricultural Impact Assessment

4.1. Overview

4.1.1. It is proposed to demolish the existing outbuilding and construct a new garden room within the rear garden as indicated on the plans in Appendix 6. The existing layout is indicated in black, and the footprint of the proposed layout is indicated in green.

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

Activity	Trees Potentially Affected
Tree Removal: Retention Category A	None
Tree Removal: Retention Category B	None
Tree Removal: Retention Category C	None
Tree Removal: Retention Category U	None
Tree Pruning	T1 and T2
RPA: Garden Room Foundations	T1, T2 and T3
RPA: Other Foundations	None
RPA: New Hard Surface	T1 and T3
RPA: Replace Existing Hard Surface	None
RPA: Underground Services	Unknown – To be confirmed
RPA: Change of Ground Levels	None
RPA: Soil Compaction	Trees adjacent the construction area (preventable by installing tree protection measures)

- 4.1.2. Other potentially damaging activities often associated with construction sites include demolition or the careless use of plant machinery, hazardous materials, or fires. All of the above potential impacts are considered in detail throughout this section.
- 4.1.3. The accompanying Arboricultural Method Statement (duplicated in Appendix 6) specifies the measures proposed to minimise all possible potential risks of damage to the retained trees.

4.2. Tree Removal

4.2.1. All trees within the site are to be retained.

4.3. Impact on Tree Canopies

4.3.1. The proposed garden rom shall be a maximum 3.2m in height and some crown lifting to the canopy of T1 will be required to facilitate the proposal. However, the canopy height of T1 is 3m above ground level and so the required pruning shall be minimal. It is proposed to remove the lower branches of T1 to a height of 4m where they overhang the proposal. This shall ensure adequate clearance height so as to prevent accidental breakage. The pruning works should be undertaken sympathetically (working to BS 3998: 2010 guidelines). To highlight this small amount of proposed pruning, the image below shows the canopy of T1 in relation to the area where the garden room is proposed.

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- 4.3.2. It is also proposed to prune back the branches of T2 in order to create a clearance distance from the proposed garden room, as to prevent accidental breakage. Such pruning of a Retention Category C elder shall have no impact on local visual amenity and is not considered to be a material planning consideration.
- 4.3.3. All other tree canopies shall be unaffected by the proposals.

4.4. Impact on Tree Roots

4.4.1. Foundations:

- 4.4.1. The foundations for the new garden room will extend into to the theoretical Root Protection Area of T1, T2 and T3. Given the proximity of the new structure to the stem of T1, it is imperative that specialist foundations are installed which will have minimal impact on the root system and on the soils beneath in which the roots grow. To achieve this, it is proposed to install an above-ground foundation (supported on narrow piles) with a ventilated void beneath into which rainwater may be diverted. The following mitigation measures are proposed:
 - Deep strip foundations shall not be used.
 - Instead, an above ground raft or beam supported on narrow piles shall be installed.
 - The narrow piles shall be hand augured into the ground. Before installing such piles, their location shall be determined by trial pits excavated to a depth of 600mm using hand tools. If any roots in excess of 40mm diameter are encountered they should be retained intact, and the pile shall be relocated. If any roots between 25mm and 40mm are encountered, they shall be retained intact wherever possible and the pile shall be relocated. Any roots that need to be severed shall be pruned with secateurs.
 - In the event of the roots being too close to each other, or there is no more tolerance, a hand-driven helical anchor shall be employed. Such anchors have a much slimmer profile, once the fins are hand manoeuvred past the roots.
 - Excavation for the trail pits shall be overseen by the project arborist.
 - No further excavation shall occur below existing ground levels (other than that required to remove any existing vegetation).

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- A ventilated void shall be maintained beneath the entire foundation.
- Provision shall be made for a controlled amount of rainwater to be diverted into the void.

4.4.2. **New Surfaces:**

- 4.4.3. The Impact Assessment Plan indicates where it is proposed to install a new pedestrian surface over the Root Protection Areas of T1 and T3). To minimise the impact on roots, the following mitigation is proposed:
 - Excavation shall be limited to 200mm.
 - Excavation shall be undertaken using hand tools only.
 - If significant rooting activity is encountered, the finished surface shall be raised to accommodate them.
 - Any edging structure used shall be installed without excavation below this depth.
 - Any sub-base used shall not contain any fines (finely crushed aggregate material).
 - Paviours should be used and dry jointed (i.e. no mortar joints) to permit infiltration of rainwater through to the ground beneath.

4.4.4. Underground Services:

4.4.5. No underground services should be installed through any Root Protection Area without consulting the project arborist and if necessary, gaining approval from the local authority.

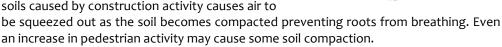
4.4.6. Changes in Ground Levels:

4.4.7. No changes of ground levels in excess of 100mm within Root Protection Areas shall be made without consulting the arborist and if necessary, gaining approval from the local authority.

4.4.8. **Soil Compaction:**

4.4.9. 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.

4.4.10. Healthy soils contain about 25% air space between solid particles. Increased loading of the soils caused by construction activity causes air to



4.4.11. 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 the accompanying Arboricultural Method Statement.

4.5. Demolition Activities

4.5.1. In order to avoid inadvertent damage to roots, branches or stems, care shall need to be taken when demolishing the existing outbuilding close to T1. Hand tools only should be used during demolition. The adjacent walls should be demolished inwards onto the footprint of the structure, and foundations/surfaces carefully lifted. Tree protection fencing shall need to be installed prior to commencement of demolition. A methodology



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is specified in the accompanying Arboricultural Method Statement under the header Restricted Activity Zone B to ensure minimum detrimental impact.

4.6. Hazardous Materials

4.6.1. 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.

4.7. Cabins and Site Facilities

4.7.1. 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 project arborist should be consulted, and approval obtained from the local authority.

4.8. Boundary Treatments

4.8.1. We are not aware of any changes are proposed to the existing boundary features that might impact on trees.

4.9. Impact of Retained Trees on the Development

- 4.9.1. The outbuilding is not considered to be a living space so the shade cast by the trees is not considered to be relevant from a planning perspective.
- 4.9.2. The suggested crown lifting of T1 shall ensure no further pruning will be required for several years.
- 4.9.3. The foundations and any new surfaces should be designed to accommodate all potential impacts due to future tree rooting activity. These include potential vegetation related subsidence, vegetation related heave, and lifting of surfaces / light structures due to direct root pressure.

4.10. Summary

- 4.10.1. The proposal seeks to retain all of the vegetation surveyed.
- 4.10.2. T1 and T2 require minimal pruning to create an adequate clearance from the proposal.
- 4.10.3. The new pedestrian surface over the RPA of T1 and T3 shall be installed sympathetically and with minimal excavation.
- 4.10.4. Foundations are proposed within the Root Protection Area of T1, T2 and T3. However, the sympathetic foundation design shall ensure no detrimental impact to tree roots or the rooting environment.
- 4.10.5. So long as suitable protection measures are implemented during demolition and construction stages, I see no arboricultural reasons why the proposal should not proceed.
- 4.10.6. Suitable protection measures are specified in the accompanying Arboricultural Method Statement ref CCL/10732 The Method Statement is thorough and enforceable so may be conditioned upon the granting of planning consent.

Caz Stuart

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Photographs 5.

Photograph 1.



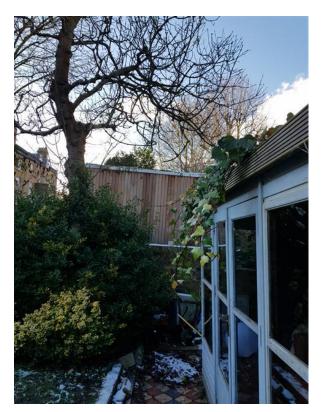
Photograph 2.



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Photograph 3.



Photograph 4.





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Appendix 1: BS 5837: 2012 – Guidance Notes

This Standard prescribes the principles to be applied to achieve a satisfactory juxtaposition of trees and structures. It sets out to assist those concerned with trees in relation to design, demolition and construction to form balanced judgements.

It acknowledges the positive contribution trees may offer to a site, as well as the negative aspects of retaining inappropriate trees. It addresses the negative impacts that construction activity may have upon trees and offers mitigation strategies to minimise these impacts.

The Standard suggests a three stage approach to ensure best practice is followed when developing close to trees:

A1.1 Stage 1: Survey Details and Notes

A ground level visual survey was undertaken. No climbed inspections or specialist decay detection were undertaken. Only trees with a stem diameter over 75mm, which lie within the site boundary or relatively close to it, were included.

Where applicable, trees with significant defects have been highlighted and appropriate remedial works have been recommended. However, this report should not be seen as a substitute for a full *Safety Survey* or *Management Plan* which are specifically designed to minimise risk and liability associated with responsibility for trees.

Wherever practicable dimensions were obtained using diameter tapes, logger's tapes, distometers and clinometers. Where obstacles prevent accurate measurement, dimensions are estimated. Trees on privately owned third party are surveyed from the best available vantage point and observations relating to the condition of these trees should be treated accordingly. All height measurements should be regarded as approximate.

Data is recorded for each tree and is presented in a Tree Data Schedule. Each tree is allocated a **Retention Category** according to its size, amenity value, condition and safe useful life expectancy. The categories are allocated independently of development proposals. Our interpretation of the Retention Categories is explained below:

A1.1.1 Retention Categories

A Category: Trees of high quality and amenity value. Usually, mature trees with a significant life expectancy which would enhance any development. Retention of these trees is strongly encouraged.

B Category: Trees of moderate quality and amenity value. Usually these are maturing trees or younger trees with exceptional form. Retention of these trees is desirable though the removal of occasional specimens may be acceptable.

C Category: Trees of low quality or small specimens with a relatively low amenity value. These trees are not considered to be a material planning constraint and their removal will generally be seen as acceptable in order to facilitate development.

U Category: Trees of such low quality that their removal is recommended regardless of development proposals.

Occasionally trees are borderline and do not fall neatly into one of the categories A, B or C. In such cases we apply a superscript (+/-) such that:

C⁺ Indicates borderline C/B, though Category C is deemed to be most appropriate.

B⁻ Indicates borderline C/B, though Category B is deemed to be most appropriate.

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The British Standard suggests that each of the A, B and C categories may be further subdivided (A1, A2, A3, B1, B2, B3 etc) such that subcategory 1 denotes mainly arboricultural values, subcategory 2 denotes mainly landscape values and subcategory 3 denotes mainly cultural values (including conservation). Multiple subcategories may be used.

Our experience suggests that these subdivisions lack clarity and can be confusing. Within this report subcategories are **not** denoted. Where appropriate, the use of phrases such as 'Part of a formal group', or 'Has a high ecological value', or 'Offers good screening to the site' are incorporated into the observation section of the Tree Data Schedule. We believe this conveys all relevant landscape and cultural information without any confusion.

Tree Constraints Plan (TCP). This indicates the position, crown spread, Retention Category and Root Protection Area of each tree. It is used to inform where development may proceed without causing damage to trees.

Root Protection Area (RPA). This is the area around each tree likely to contain the majority of roots. It should ideally remain undisturbed to avoid a detrimental impact on tree health. For single stemmed trees It is calculated according to the formula "radius of RPA" = "12 x stem diameter". Where a tree has more than one stem, the equivalent-single-stem diameter is usually recorded. This is calculated by adding the squares of the stems and then finding the square root of this total. The radius of the Root Protection Area is then calculated by multiplying the equivalent-stem-diameter by 12.

Shade Constraints. The previous Standard (BS 5837 2005) suggested that shade constraints should be indicated on the TCP. This are denoted as a circle-segment drawn northwest to due east with a radius equal to the height of the tree. These do not represent the actual shade pattern which varies through the seasons. Rather, they indicate the area most shaded by the tree throughout the course of the year. Ideally habitable room windows should be located outside of these shade constraints. Where we consider it appropriate, we will include shade constraints information on our Impact Assessment Plan or Proposed Layout Plan.

A1.2 Stage 2: Arboricultural Impact Assessment

After the initial survey and the production of the Tree Constraints Plan, arborists and designers are encouraged to work together to establish a design proposal with minimal impact on the high quality trees. An assessment should be made of all possible impacts including the impact that the trees may have upon the proposal. The arborist may recommend mitigation strategies to minimise these impacts and help achieve a more harmonious juxtaposition between buildings and trees.

A1.3 Stage 3: Arboricultural Method Statement

This type of report specifies the measures necessary to protect trees against damage from construction activity. The Method Statement should be written in a manner that it may be conditioned and enforced by the local authority upon granting of planning permission. The site manager should be familiar with all aspects of the Method Statement and should ensure that all persons working on the site are aware of those aspects which appertain to their work. This includes service installation engineers and operators of plant machinery.

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Appendix 2: Explanation of Tree Data & Glossary

This section explains the terms used in the Tree Data Schedule (see Section 3 and Appendix 6).

General Observations A2.1

Numbering System: Each item of vegetation has its own unique number prefixed by a letter such that T1=Tree 1, G2=Group 2, H3=Hedge 3 and

W4=Woodland 4, S5=Shrub 5.

Age Categories:

Usually less than 10 years old. Young

Semi-Mature Significant future growth to be expected, both in height and crown spread (typically below 30% of life expectancy). Early-Mature Full height almost attained. Significant growth may be expected in terms of crown spread (typically 30-60% of life expectancy). Mature Full height attained. Crown spread will increase but growth increments will be slight (typically 60% or more of life expectancy).

Veteran A level of maturity whereby significant management may be required in order to keep the tree in a safe condition. **Over Mature** As for veteran except management is not considered worthwhile.

Common names and Latin names are given.

Height: Measured from ground level to the top of the crown.

Stem Diameter: Taken at 1.5m above ground level where possible. On multi-stemmed trees this measurement may be taken at ground level,

though usually an indication of the number of stems and average diameter is given, e.g. 3 x 30cm.

Crown Height: Measured from ground level to the height at which the main crown begins. Where the crown is unbalanced it is measured on the

side deemed to be most relevant. This is usually the side facing the area of anticipated development.

Tree Diagram: This scaled drawing is computer generated based on measurements taken for stem diameter, crown height and spread, and

overall height. It is designed to help the reader rapidly assess the data. It is not an accurate representation of the form of the

Crown Spread: Measured N, E, S & W, taken from the centre of the stem and usually rounded up to the nearest metre.

Observations: If a tree's position is considered to be relevant it will be commented upon (e.g. overhanging a children's play area). Tree form

and pruning history are also recorded along with an account of any significant defects. Defects and descriptive terms are dealt

with in more detail at the end of this section.

Usually based on any defects observed and intended to ensure that the tree is in an acceptable condition. Recommendations:

Priority Scale: Depending upon the threat posed by the tree, and the likelihood of failure, recommendations should be carried out according to

the following priority scale:

Urgent To be carried out as soon as possible. Very High To be carried out within 1 month. High To be carried out within 3 months Moderate To be carried out within 1 year. To be carried out within 3 years

Inspection Frequency:

An interval of 6 months, 1 year, 1.5 years or 3 years is allocated before the next inspection is due. Wherever practical, consideration should be given to seasonal changes so that deciduous trees are not always surveyed in winter when they have no

leaves, or in summer when leaves may obscure branches within the upper crown.

An indication of growth rate and the tree's ability to cope with stresses: Vigour:

High Having above average vigour. Moderate Having average vigour. Having below average vigour.

Tree is struggling to survive and may be dying. Verv Low

Physiological Condition:

Good Healthy and with no symptoms of significant disease.

Fair Disease present or vigour is impaired

Significant disease present or vigour is extremely low. Poor

Very Poor Tree is dying.

Structural Condition:

Having no significant structural defects. Good

Some defects observed though no high priority works are required. Poor Significant defects found. Tree requires monitoring or remedial works.

Very Poor Major defects which will usually require significant remedial works or tree removal.

Amenity Value:

Very High Exceptional specimen, observable by a large number of people. Attractive specimen, observable by a significant number of people. High

Moderate One of the above factors is not applicable. Low Unattractive specimen or largely hidden from view.

The estimated number of years before the tree may require removal. Classified as (<10), (10 - 20), (20 - 40), or (40+). Life Expectancy:

Retention Category: These are explained in detail in Appendix 1.

Evaluation of Defects A2.2

Cavities, wounds, deadwood etc are all evaluated as follows:

Such that structural integrity is, or will become, compromised and the tree is, or will inevitably become, hazardous. Major

Significant A defect that may over time become a major defect, though not necessarily so. This will depend on the vigour of the tree and its ability to deal with decay etc.

Minor A defect that is not likely to compromise the tree's structural integrity.

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General Glossary

Aerobic	Conditions in which oxygen is freely available, or to biomechanical processes that depend on the presence of oxygen.
Anaerobic	A condition marked by the absence of oxygen; Generally such areas are unsuitable for normal life and growth of plant tissues. These sites tend to be populated by bacteria capable of surviving low oxygen conditions often associated with Slime Flux.
Arboriculture	The culture and management of trees as groups and individuals primarily for amenity and other non-forestry purposes.
Arborist	A person possessing the technical competence through experience and related training to provide management of trees or other woody plants in a landscape setting. Generally involved with the development or management of trees for visual amenity or land management rather than the growth of trees for product or profit.
Barrier zone	A layer within an annual increment of wood which contains abnormal xylem cells, laid down by the cambium in response to wounding or other trauma.
Bracket	A type of fruiting body produced by various fungal species, plate like to hoof like in shape and often a one sided attachment to the wood or bark.
Branch bark ridge	A ridged area located at the union of a branch to a trunk or stem.
Branch Collar	Trunk tissue that forms around the base of a branch between the main stem and the branch, or between a main branch and a lateral branch. As a branch decreases in vigour or begins to die, the collar usually becomes more pronounced and completely encircles the branch.
Brown Rot	Form of decay where cellulose is degraded, while lignin is only modified.
Buttress Root	Roots that emerge from the base of the tree stem, normally large and well developed that rapidly reduce in diameter to create the Root Plate this offers structural support for the tree. Buttress roots divide rapidly forming the connection between the stem and the transport roots.
Cabling Bracing	Installing cables within the crown of a tree to prevent collapse.
Cambium	A thin layer of actively growing and dividing cells, located between the xylem (sapwood) and bark of a plant; the part responsible for radial growth of a tree stem or branch.
Canopy	The topmost layer of twigs and foliage in a woodland, tree or group of trees.
Canker	A localised area of dead bark and cambium on a stem or branch, caused by fungal or bacterial organisms, characterised by woundwood development on the periphery. This may be annual or perennial.
Cavity	An open and exposed area of wood, where the bark is missing and internal wood has been decayed and dissolved.
Chlorotic	Also Chlorosis. A condition of the plant marked by yellowing of normally green foliage, often indicating nutrient deficiency or plant dysfunction.
Co-dominant stems/trunk	Are forked branches or trunks of nearly the same size in diameter and lacking a normal branch union.
Compacted soils	Soils in which the air-space (oxygen space) has been reduced or eliminated, reducing water infiltration and percolation, reducing root presence and inhibiting new root development.
Compartmentalisati on	The physiological process that creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms.
Compression Wood	Abnormal wood formed on the lower side of branches and curved stems, with physical properties different from normal wood.
Conservation Area	In Great Britain, designated areas of architectural or historical interest, in which there are special procedures for planning applications. Additionally tree works cannot generally be undertaken without prior notification (Currently 6 weeks) to the relevant local planning authority. See also Tree Preservation Orders.
Core Sample	A sample of wood extracted from a trunk or branch, using an increment borer tool. The resulting core can be analysed for characteristics of growth, wood strength, structure, decay, and for species identification.
Crotch	The union of two or more branches; the auxiliary zone between branches.
Crown	The upper canopy of a tree, including upper trunk, scaffold branches, secondary branches, stems and leaves.
Crown lifting / raising	Crown Lift The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown reduction	The reduction of a tree's height or spread while preserving its natural shape.
Crown thinning	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood (noun)	Deadwood is often present within the crown or on the stems of trees. It may be an indication of ill health, however, it may also indicate natural growth processes. If a target is present beneath the tree, deadwood may fall and cause injury or damage and should be removed, otherwise deadwood can remain intact for conservation purposes (insects, fungi, birds etc.).
Deadwood (verb)	The removal of dead branches from a tree's canopy, usually of a specified size (in diameter).
Decay	Progressive deterioration of organic tissues, usually caused by fungal or bacterial organisms, resulting in loss of cell structure, strength, and function. In wood, the loss of structural strength.
Decay Detection	The assessment of decay within a tree has been traditionally difficult, but recent advances have made it possible to achieve accurate representations of the internal section of a tree in both 2D and 3D, removing doubt over the condition of the tree and allowing accurate management decisions.
Defoliation	The losing of plants foliage.
Dieback	Progressive death of buds, twigs and branch tissues, on individual limbs resulting in Deadwood, or throughout the canopy, extreme cases can result in Stag Heading.
Epicormic shoots	Fast growing, weakly attached shoots/branches that often grow as a response to stress factors upon a tree or branch removal.
Failure	In connection with tree hazards, a partial or total fracture within the wood tissue or loss of cohesion between roots and soil. (In total failure affected parts will snap or tear away completely, Partial failure there is a crack or deformation, which results in an altered distribution of mechanical stress.
Feeder Roots	Fine fibrous Water and nutrient absorbing roots located in the outer root system.
Flush-Cut	In trees and shrubs, a pruning cut close to the parent stem, which removes the branch bark ridge.
Foliage	The live leaves or needles of the tree; the plant part primarily responsible for photosynthesis.
Formative pruning	The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown.
Girdling Root	In woody plants, a root that grows across the buttress, or across other roots, eventually causing constriction of the radial
5	growth.

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Growth Increment	The incremental growth added as new annual ring develops each season over existing wood. This is seen as (growth) rings in cross-sections of wood.
Hazard beam	An upwardly curved branch in which strong internal stresses may occur without the compensatory formation of extra wood (longitudinal splitting may occur in some cases).
Heartwood	Inner non functioning tissues that provide structural support to trunk.
Heave	In relation to shrinkable clay soils, expansion due to rewetting of a volume of soil previously subjected to the removal or water by plant / trees following felling or root severance. Also in relation to root growth, the lifting of pavements and other structures by radial expansion. Also in relation to tree stability, the lifting of one side of a wind rocked root plate.
Included Bark	Bark that becomes embedded in a crotch between branch and trunk or between co-dominant stems, usually found in narrow or tight crotches, and causes a weak structure.
Increment Borer	A tool that cuts and extracts a narrow cylinder of wood from a tree for analysis of the wood tissue and growth increments.
Limb	A large lateral branch growing from the main trunk or from another larger branch.
Lopping	In trees, a general term that related to the removal of branches from a tree.
Mycelium	A mass of growing filaments (hyphae) formed by fungi.
Mycorrhizae	The symbiotic relationship between roots and certain beneficial fungi. Mycorrhizae are the combined root / fungal growth.
Occluding tissue	The general tern of wood, cambium and bark that develop around the site of a wound on a woody plant
Pathogen Phloem	A microorganism that causes diseases within another organism. The principle conductive tissue that the products of Photosynthesis are transported around the plant
Pollard	A term for a pollarded tree.
Pollard head	The swollen section of branch / stem that forms behind the pollarding cut.
Pollarding	The complete or partial removal of the crown of a young tree so as to encourage the development of numerous branches either
Reaction Wood	for amenity or historically as fodder, repeated management is required cyclically to maintain the feature Wood with distinctive anatomical characteristics, formed in parts of leaning or crooked stems and in branches to provide
Reaction Zone	additional strength / support. In hardwoods, tension wood usually forms. In conifers, compression wood is usually found. A zone normally darker than surrounding wood that denoted the boundary often a defensive one between functional sapwood
	and dysfunctional or decaying wood.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown.
Resistograph	Invasive decay detection technique whereby the resistance offered by the timber to a spinning probe is measured and plotted.
Root Barriers	Both Buildings and services can benefit from the installation of root barriers to protect a soil volume from the ingress of roots.
Root Collar	The basal area of the tree; transition zone from trunk to root. Also sometimes called trunk flare.
Root Plate	The primary support area for the tree; an area of the root system close to the base that structurally anchors the tree to the soil.
Root Zone	The area and volume of soil around the tree in which roots are expected. May extend to three or more times the branch spread of the tree, or several times the height of the tree.
Sail Area	That area or the tree subjected to wind load.
Sapwood	Xylem wood tissue, usually light in colour, representing the outer growth rings of the wood. Usually living, reactive wood tissue, in a healthy tree. See heartwood
Scaffold limbs / scaffold Branches	The branches that from the main network framework of the crown of a tree.
Soft Rot	A kind of wood decay, were a fungi degrades cellulose within the cell wall, without causing overall degradation.
Soil Compaction	The compression of soil, causing a reduction of pore space and an increase in the density of the soil. Air is squeezed out and nutrients become locked. Tree roots cannot grow in compacted soil.
Sonic Decay	Non invasive method whereby sound waves are passed through the tree and the speed is measured. Slow speeds indicate decay
Detection	and a tomography picture representing the inner stem is produced.
Stag Heading	In a tree, a state of dieback were dead branches protrude beyond the current living crown.
Stump Grinding	The removal of a tree stump using a specialist grinding machine.
Subsidence	In relation to vegetation, the removal of water by plant growth resulting in localised shrinkage in the soil volume.
Suppressed	Trees which are dominated by surrounding vegetation and whose crown development is restricted from above. Any person or object within reach of a falling tree or part of a tree that may be injured or damaged.
Target Target Pruning	The pruning of a branch were the wound affects only branch material, often result in a target shaped wound.
Tension Wood	Reaction wood typically formed on the upper side of limbs or curved stems; characterized by lack of cell wall lignifications (higher ratios of cellulose to lignin).
Tight Union / Tight Crotch	Also, narrow crotch. A crotch with a narrow angle between branches, often having included bark.
Tomography	The comparison of sound or stress waves through the tree allows the creation of a 2D or 3D representation of the internal
Topping	structure of a stem or branch section and highlights areas of damage. Virtually non-injurious. Cutting large limbs back severely, without regard to form or habit of the tree. Cuts are usually made between lateral branch nodes. This practice is extremely injurious to trees, and promotes decay and structural weakness within the crown.
Tree Preservation	In Great Britain, an order made by the local planning authority, were consent must be gained before undertaking all but exempt
Order	works to a tree.
Veteran Tree	Veteran trees are often found in large parks or estates and commonly affected by extensive decay or have been subject to extensive works. These trees are retained for historical importance and often pose greater risk than normal, which is generally justified. They need careful management and often propring or bracing to support them, some require fencing to limit access.
Vigour	justified. They need careful management and often propping or bracing to support them, some require fencing to limit access. Active, healthy growth of plants: ability to respond to stress factors.
Visual Tree	An assessment of the mechanical condition of trees based upon their 'body language'. Trees are dynamic and respond to faults /
Assessment (VTA)	decay / environmental factors in various ways, these responses can be indicative of structural integrity.
Wetwood	An infection caused by bacteria living inside the plant tissues. The bacteria ferment the plant fluids, resulting in death of nearby cells, and often causing exudations of fluid from the bark, often referred to as a Slime Flux.
White Rot	A kind if wood decay were a fungi attacks the lignin within the wood matrix
Witches Broom	A deformed or unusual growth of twigs from adventitious buds, caused by insects, disease, or dieback of twigs and buds.
Wood	Secondary Xylem; the main structural support and water conducting tissue of trees and shrubs.
Wound Wood	Wood with atypical features, formed in the vicinity of a wound and a term to describe the occluding tissues around a wound
Xylem	Plant tissues with special function of translocation of water and dissolved nutrients.

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Appendix 3: Survey Methodology

Ground level visual surveys are carried out using the *Visual Tree Assessment* technique described by Mattheck and Broeler (1994) and endorsed by the Arboricultural Association (LANTRA Professional Tree Inspection course, 2007).

Structural condition is assessed by inspecting the stem and scaffold branches from all angles looking for weak branch junctions or symptoms of decay. Particular attention is paid to the stembase. Cavities are explored using a metal probe in order to assess the extent of any decay. If this is not possible further inspection is recommended in the form of a climbed inspection or using specialist decay detection equipment.

The physiological condition is assessed by inspecting the stem, branches and foliage for symptoms of disease. The overall vigour of the tree is also taken into account.

Where significant defects are observed, recommendations are made according to a scale of priority in order to reduce the likelihood of structural failure. The position of the tree and its potential targets are taken into account.

Measurements are obtained using a diameter tape, clinometer, distometer and loggers tape. Where this is not practical measurements are estimated.

Some trees are surveyed as groups, though this is usually avoided close to areas likely to be developed.

Finally, a Retention Category is allocated as described in Appendix 1.1.1.

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Appendix 4: Author's Qualifications

Qualifications & Experience of Ivan Button N.C.H. (Arb), FDSc (Arb), BSc (Hons), P.G.C.E., M. Arbor. A.

Between 1983 and 1995 Ivan worked primarily within the construction industry and received training in a broad range of practical building skills and general construction principles. During this time he obtained a BSc (Hons) at Leeds University followed by a P.G.C.E at The University of Wales.

In 1995, Ivan obtained a NCH (Arboriculture) at the University of Lincoln and became a member of the Arboricultural Association. He then worked for an Arboricultural Consultancy for one year before establishing a tree surgery and landscaping business in 1998. In 2005 Ivan commenced full time employment with a leading Arboricultural Association approved consultancy and soon adopted a senior role responsible for five consultants.

He obtained a FDSc in arboriculture at the University of Lancashire, which he passed with distinction and is now a Director and Principal Consultant of Crown Consultants Ltd. He is accredited as a LANTRA *Professional Tree Inspector*. A qualification produced in association with the Arboricultural Association and generally recognised as appropriate for all levels of tree inspection.

Ivan is a professional member of the Arboricultural Association, the International Society of Arboriculture and the Consulting Arborist Society

Ivan is trained and licensed in QTRA (Quantified Tree Risk Assessment). He has undertaken professional expert witness training provided by Bond Solon and has been registered as a Sweet and Maxwell Checked Expert Witness from 2008-2017, after which the service was no longer offered.

Throughout 2009 acted as the principal Tree Officer for Barnsley Metropolitan Borough Council.

Ivan has produced several hundred Arboricultural Reports for the purposes of Development, Safety, Management, Mortgage, Subsidence, Mitigation and Litigation.

Qualifications & Experience of Emma Hoyle FDSc (Arboriculture), ED (Forestry & Arboriculture), M. Arbor. A.

Emma is a qualified Arboricultural Consultant educated to Level 5 in Arboriculture at Askham Bryan College and is a professional member of the Arboricultural Association. She has worked for Crown Consultants since 2015 and has since written numerous reports relating to all aspects of arboriculture including; planning and development, vegetation related subsidence, tree preservation orders and tree risk assessment. Emma regularly attends seminars and events in order to keep abreast with current knowledge and best practise in Arboriculture.

Prior to becoming an arboricultural consultant, Emma worked for two reputable tree surgery firms from 2008 and became an NPTC Qualified tree surgeon after completing a Level 3 Extended Diploma in Forestry and Arboriculture at Askham Bryan College. Emma also has experience in other areas of arboriculture such as forest clearance, tree planting, tree maintenance and landscaping.

Qualifications & Experience of Joe Taylor - MArborA, FdSc (Arboriculture)

Joe began his career in Arboriculture as a tree surgeon/climber. During his time as a tree surgeon, Joe has achieved City & Guilds NPTC qualifications in Chainsaw Maintenance and Cross Cutting, Tree Climbing and Rescue, Safe Use of Manually Fed Wood-chipper and Supporting Colleagues Undertaking Tree Related Operations.

Joe obtained a Foundation Degree in Arboriculture at Askham Bryan College in 2015 which he passed with merit. Joe is a professional member of the Arboricultural Association, the International Society of Arboriculture and the Royal Forestry Society and regularly attends industry related seminars in order to keep abreast of industry best practice.

Studying at Askham Bryan College reinforced Joe's passion for trees and drove his enthusiasm to learn more. Learning how trees interact with their surrounding environment and their importance within our urban and rural landscapes highlighted an interest in pursuing a career in consultancy.

Since working for Crown Consultants Joe has undertaken numerous surveys and produced numerous reports for the purpose of planning (BS 5837), tree condition surveys, subsidence risk assessments, root surveys and decay detection investigations.

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Appendix 5: Further Information

Building Near Trees - General

National Joint Utilities Group publication # 10 (1995), Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees. Downloadable at www.njug.demon.co.uk/pdf/NJUG%20Publication10.pdf

NHBC Standards Chapter 4.2., Trees and Buildings.

Horticulture LINK project 212. (University of Cambridge, 2004), Controlling Water Use of Trees to Alleviate Subsidence Risk.

Tree Planting and aftercare

See www.trees.org.uk/leaflets.php# for downloadable leaflets on selecting a garden tree, planting, aftercare and veteran tree management.

British Standards

BS 5837: 2012. Trees in Relation to Design, Demolition and Construction – Recommendations.

Bs 3998: 2010. Recommendations for Tree Work.

BS 3936: 1992. Nursery Stock. Part 1: Specification for Trees and Shrubs.

BS 3936: 1992. Nursery Stock. Part 10: Specification for Groundcover Plants.

BS 4043: 1989. Transplanting Root-balled Trees.

BS 8004: 1986. Foundations.

BS 8103: 1995. Structural design of Low-Rise Buildings.

BS 8206: 1992. Lighting for Buildings.

BS 8545:2014. Trees: From nursery to independence in the landscape – Recommendations

BS 3882: 2007. Topsoil.

BS 4428: 1989. General Landscaping Operations (excluding hard surfaces).

Permission to do Works to Protected Trees / Tree Law

Forestry Commission (Edinburgh, 2003), Tree Felling – Getting Permission. Country Services Division - Forestry Commission. Downloadable at www.forestry.gov.uk/website/pdf.nsf/pdf/wgsfell.pdf/\$FILE/wgsfell.pdf

Transport and the Regions (Department of the Environment, 2000), Tree Preservation Orders, A Guide to the Law and Good Practice. Downloadable at www.communities.gov.uk/publications/planningandbuilding/tposguide

C. Mynors, The Law of Trees, Forests and Hedgerows (Sweet and Maxwell, London, 2002)

Communities and Local Government website with numerous downloadable documents, from: http://www.communities.gov.uk/planningandbuilding/planning/treeshighhedges/

Lighting Levels

P.J. Littlefair, B.R.E. 209: Site layout planning for daylight and sunlight A guide to good practice. B.R.E. Bookshop, London.

British Standards Institution. Code of practice for day lighting. British Standard BS 8206: Part 2 (1992).

Chartered Institution of Building Services Engineers. Applications manual: Window Design (London, 1987).

NBA Tectonics. A study of passive solar housing estate layout. ETSU Report S-1126. Harwell, Energy Technology Support Unit (1988).

I.P. Duncan; D. Hawkes, Passive solar design in non-domestic buildings. ETSU Report S-1110. Harwell, Energy Technology.

P. J. Littlefair, Measuring Daylight, BRE Information Paper 23/93 f3.50. (Advises on measuring daylight under the real sky or an artificial sky, allowing for the changing nature of sky light).

High Hedges

Communities and Local Government website with numerous downloadable documents, from: http://www.communities.gov.uk/planningandbuilding/planning/treeshighhedges/

Tree Specific Websites

www.crowntrees.co.uk Crown Consultants site containing useful information

www.trees.org.uk Arboricultural Association

www.rfs.co.uk Royal Forestry Society of England, Wales and N. Ireland

www.treehelp.Info The Tree Advice Trust
www.woodland-trust.org.uk The Woodland Trust
www.treecouncil.org.uk The Tree Council

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Appendix 6: Tree Data Schedule and Site Plan(s)

The Tree Data Schedule and any drawings accompanying this report follow this page. They are also provided as separate documents for ease of printing and screen viewing.

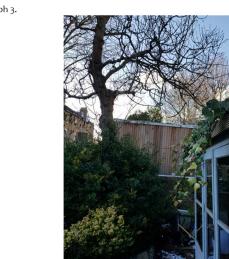
Reference G = Group H = Hedge	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W E S	Scaled Tree Diagram (m)		Driority '			Physiological	
T1	Semi-Mature Ash Fraxinus excelsior.	8	3	29	3.5 4 2 4	25	Form: History: Defects: Other:	Single stemmed and leaning with a sparse crown. No significant defects observed. Significant cavities developing at 2.5 meters and 5 meters above ground level Scattered minor dead branches throughout. T1 has been plotted according to measurements provided to Crown Consultants following the original tree survey.	No action I		Very Low Very Poor Poor	Low 10-20
T2	Semi-Mature Elder Sambucus nigra.	4.5	2	22	1 2 2	0	Position: Form: History: Defects:	Adjacent rear boundary. Shrub with multiple entwined stems. No evidence of significant pruning. No significant defects observed.	No action I	required.	High Good Fair	10-20
Т3	Young Bay Laurel Laurus nobilis.	2.5	1	22 @ Base	1 1 1	0	Position: Form: History: Defects:	6.2 meters from rear boundary. Multi-stemmed at ground level with a compact crown. Maintained by regular trimming. No significant defects observed.	No action I	required.	High Good Good	20-40
T4	Semi-Mature Strawberry Tree Arbutus unedo.	3	1.5	20 @ Base	1.5 2 1	0	Position: Form: History: Defects: Other:	Situated on third party land. Multi-stemmed at ground level with a compact crown. No evidence of significant pruning. No significant defects observed. Limited inspection, dimensions estimated.	No action I	required.	Moderate Good Fair	20-40
Т5	Semi-Mature Prunus Prunus sp.	5.5	3	13	1.5 1.5 1.5 1.5	25	Position: Form: History: Defects: Other:	Situated on third party land. Twin-stemmed at 4m with a compact crown. No evidence of significant pruning. No significant defects observed. Limited inspection, dimensions estimated.	No action I	required.	Moderate Fair Fair	10-20





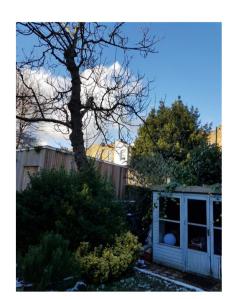








Photograph 2.













T3

Shrubs

Ht: 1-2m

Shrub

Ht: 2.5

No 70

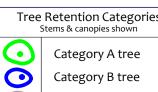
Multiple Stemmed

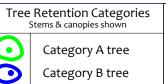


Tree Data Schedule

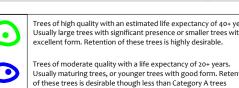
eference	G= Group H = Hedge	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W E	Scaled Tree Diagram (m)	Notes	Recomme (Independe development	ent of any	Vigour Physiological Condition	Amenity Value Life Expectancy (yrs)
~	J 1		¥	Ŝ	Diar	s			Priority	Inspect Freg (yrs)	Structural Condition	Retention
Т	1	Semi-Mature Ash Fraxinus excelsior.	8	3	29	3.5 4 2 4	25	Form: Single stemmed and leaning with a sparse crown. History: No significant defects observed. Defects: Significant cavities developing at 2.5 meters and 5 meters above ground level Scattered minor dead branches throughout. Other: T1 has been plotted according to measurements provided to Crown Consultants following the original tree survey.	No action i	required.	Very Low Very Poor Poor	Low 10-20
Т	·2	Semi-Mature Elder Sambucus nigra.	4.5	2	22	1 2 2	25	Position: Adjacent rear boundary. Form: Shrub with multiple entwined stems. History: No evidence of significant pruning. Defects: No significant defects observed.	No action i	•	High Good Fair	Low 10-20
Т	·3	Young Bay Laurel Laurus nobilis.	2.5	1	22 @ Base	1 1 1	[25]	Position: 6.2 meters from rear boundary. Form: Multi-stemmed at ground level with a compact crown. History: Maintained by regular trimming. Defects: No significant defects observed.	No action I	3 required.	High Good Good	20-40
Т	4	Semi-Mature Strawberry Tree Arbutus unedo.	3	1.5	20 @ Base	1.5 2 1 2	25	Position: Situated on third party land. Form: Multi-stemmed at ground level with a compact crown. History: No evidence of significant pruning. Defects: No significant defects observed. Other: Limited inspection, dimensions estimated.	No action i		Moderate Good Fair	20-40
Т	5	Semi-Mature Prunus Prunus sp.	5.5	3	13	1.5 1.5 1.5 1.5	25	Position: Situated on third party land. Form: Twin-stemmed at 4m with a compact crown. History: No evidence of significant pruning. Defects: No significant defects observed. Other: Limited inspection, dimensions estimated.	No action i		Moderate Fair Fair	Low 10-20











BS 5837 Root Protection Area (radius = 12xstem diameter)
Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building.
Root Protection Area having been amended to account for for site conditions

	MN = Measured North:
1	Canopy spreads are sometin measured to an approximate defined by site features. Often more accurate, especi where rows of trees are not aligned N-S or E-W.

nes								
e N	Tree Ref.	Species	Height (m)	Root Protection Area				
	Hee Kei.	Species	neight (III)	Radius (m)	m²	Square (m		
ially	T1	Ash	8	3.5	38	6.2		
	T2	Elder	4.5	2.6	22	4.7		
	T3	Bay Laurel	2.5	2.2	15	3.9		
	T4	Strawberry Tree	3	2.0	13	3.5		
	T5	Prunus	5.5	1.6	8	2.8		

Tree Constraints Plan
(Existing Layout)

Tree Constraints Plan

No 68

Excerpts from the Arboricultural Impact Assessment

It is proposed to demolish the existing outbuilding and construct a new garden room within the rear garden as indicated on the plans in Appendix 6. The existing layout is indicated in black, and the

otprint of the proposed layout is indicated in green.			
ne table below summarises the potential impact on trees due to various activities.			
Activity	Trees Potentially Affected		
Tree Removal: Retention Category A	None		
Tree Removal: Retention Category B	None		
Tree Removal: Retention Category C	None		
Tree Removal: Retention Category U	None		
Tree Pruning	T1 and T2		
RPA: Garden Room Foundations	T1, T2 and T3		
RPA: Other Foundations	None		
RPA: New Hard Surface	T1 and T3		
RPA: Replace Existing Hard Surface	None		
RPA: Underground Services	Unknown – To be confirmed		
RPA: Change of Ground Levels	None		
RPA: Soil Compaction	Trees adjacent the construction area (preventable by installing tree protection measures)		

careless use of plant machinery, hazardous materials, or fires. All of the above potential impacts are

Tree Removal

All trees within the site are to be retained.

The proposed garden rom shall be a maximum 3.2m in height and some crown lifting to the canopy of

It is also proposed to prune back the branches of T2 in order to create a clearance distance from the proposed garden room, as to prevent accidental breakage. Such pruning of a Retention Category C elder shall have no impact on local visual amenity and is not considered to be a material planning

All other tree canopies shall be unaffected by the proposals.

he foundations for the new garden room will extend into to the theoretical Root Protection Area of T1, T2 and T3. Given the proximity of the new structure to the stem of T1, it is imperative that specialist undations are installed which will have minimal impact on the root system and on the soils beneath in which the roots grow. To achieve this, it is proposed to install an above-ground foundation (supported on narrow piles) with a ventilated void beneath into which rainwater may be diverted. The

- Deep strip foundations shall not be used.
- In the event of the roots being too close to each other, or there is no more tolerance, a hand-driven helical anchor shall be employed. Such anchors have a much slimmer profile, once the fins are hand
- Excavation for the trail pits shall be overseen by the project arborist. • No further excavation shall occur below existing ground levels (other than that required to remove
- A ventilated void shall be maintained beneath the entire foundation.
- Provision shall be made for a controlled amount of rainwater to be diverted into the void. New Surfaces:

The Impact Assessment Plan indicates where it is proposed to install a new pedestrian surface over the Root Protection Areas of T1 and T3). To minimise the impact on roots, the following mitigation is

- Excavation shall be undertaken using hand tools only. • If significant rooting activity is encountered, the finished surface shall be raised to accommodate
- Any sub-base used shall not contain any fines (finely crushed aggregate material).
- through to the ground beneath.

No underground services should be installed through any Root Protection Area without consulting the

Changes in Ground Levels:

No changes of ground levels in excess of 100mm within Root Protection Areas shall be made without consulting the arborist and if necessary, gaining approval from the local authority.

Demolition Activities

tatement under the header Restricted Activity Zone B to ensure minimum detrimental impact.

Suitable protection measures are specified in the accompanying Arboricultural Method Statement ref CCL/10732 The Method Statement is thorough and enforceable so may be conditioned upon the granting of planning consent.

See Section 4 for a more detailed assessment

Other potentially damaging activities often associated with construction sites include demolition or the

The accompanying Arboricultural Method Statement (duplicated in Appendix 6) specifies the measures proposed to minimise all possible potential risks of damage to the retained trees.

Impact on Tree Canopies

T1 will be required to facilitate the proposal. However, the canopy height of T1 is 3m above ground level and so the required pruning shall be minimal. It is proposed to remove the lower branches of T1 to a height of 4m where they overhang the proposal. This shall ensure adequate clearance height so as to prevent accidental breakage. The pruning works should be undertaken sympathetically (working to BS

Impact on Tree Roots

Foundations:

following mitigation measures are proposed:

- Instead, an above ground raft or beam supported on narrow piles shall be installed. • The narrow piles shall be hand augured into the ground. Before installing such piles, their location shall be determined by trial pits excavated to a depth of 600mm using hand tools. If any roots in excess of 40mm diameter are encountered they should be retained intact, and the pile shall be relocated. If any roots between 25mm and 40mm are encountered, they shall be retained intact wherever possible and the pile shall be relocated. Any roots that need to be severed shall be pruned with secateurs.

- Any edging structure used shall be installed without excavation below this depth.
- Paviours should be used and dry jointed (i.e. no mortar joints) to permit infiltration of rainwater

Underground Services:

project arborist and if necessary, gaining approval from the local authority.

In order to avoid inadvertent damage to roots, branches or stems, care shall need to be taken when demolishing the existing outbuilding close to T1. Hand tools only should be used during demolition. The adjacent walls should be demolished inwards onto the footprint of the structure, and bundations/surfaces carefully lifted. Tree protection fencing shall need to be installed prior to ommencement of demolition. A methodology is specified in the accompanying Arboricultural Method

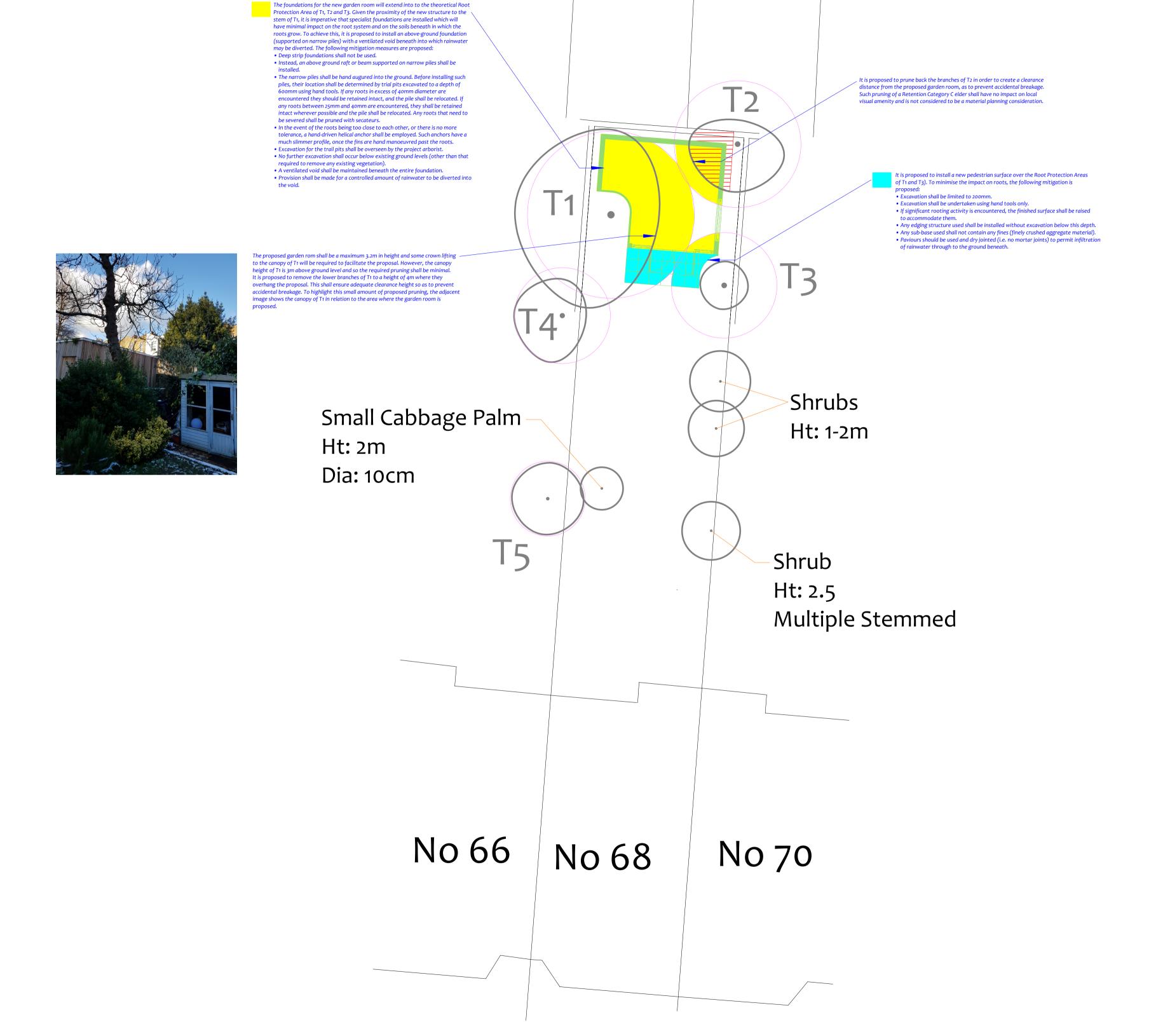
Summary

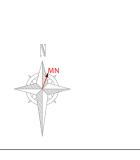
The proposal seeks to retain all of the vegetation surveyed.

T1 and T2 require minimal pruning to create an adequate clearance from the proposal.

The new pedestrian surface over the RPA of T1 and T3 shall be installed sympathetically and with oundations are proposed within the Root Protection Area of T1, T2 and T3. However, the sympathetic

oundation design shall ensure no detrimental impact to tree roots or the rooting environment. So long as suitable protection measures are implemented during demolition and construction stages, I see no arboricultural reasons why the proposal should not proceed.

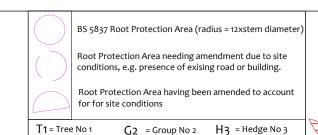






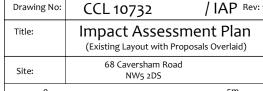
(Existing Layout with Proposals Overlaid)

Impact Assessment Plan (Existing Layout with Proposals Overlaid)



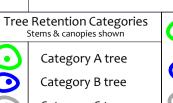
MN = Measured North: Canopy spreads are sometim neasured to an approximate N Tree to be removed to defined by site features. facilitate the proposal Often more accurate, especially Tree to be removed | where rows of trees are not due to its low quality aligned N-S or E-W.

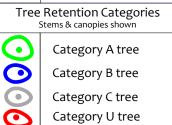
Strawberry Tree

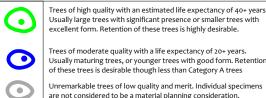














Arboricultural Method Statement

Site: 68 Caversham Road, NW5 2DS

Date: 08/04/2021 | Revision: 1 | CCL ref No: 10732

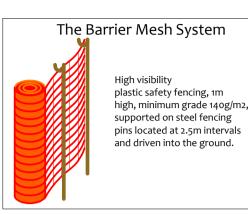
Tree Protection Barriers

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.

The Barrier-Mesh System — — — — — —

Where indicated by a thick red line (solid or dashed) on the Tree Protection Plan, it shall be acceptable to install a less robust system than usually required to protect trees during constuction This is because of the nature of construction activity or its distance from tree protection areas. The purpose of such a system shall be to demarcate the protection zone. It is not intended that such

In this system, high visibility plastic safety fencing, 1m high, minimum grade 140g/m2 is supported on steel fencing pins located at 2.5m intervals.



Stem Protection – Cloth and Chestnut Paling Wrap Where indicated by a turquoise star on the Tree Protection Plan, it is proposed to protect a tree ste using sturdy cloth and chestnut paling double wrapped around the stem and. Other tree protection barriers, such as those specified above, are not considered appropriate due to the proximity of the

The tree stem and any low limbs shall be protected from ground level to a height of 3m by wrapping them at least three times with a sturdy material such as hessian cloth or similar. Around this,

chestnut paling shall be wrapped at least twice around and secured. The wrappings shall be secured using string, wire or plastic cable clips. They shall not be secured by driving nails or tacks into the tree stem or bark.

state the purpose of the fencing and that it should not be moved, or traversed, other than by

Removal of Tree Protection Barriers Removal of protective fencing or ground protection measures shall be done after all major construction work is complete and their removal has been approved by the appointed arborist

Ground Protection Measures

Restrictions in Specific Zones

Within Restricted Activity Zones, soils containing roots 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 where engineers consider it adequate to spread the load

Unless specified otherwise, ground protection shall consist of 24mm OSB boards laid at double thickness and screwed together to prevent slippage. The ground shall first be made even by raking, or by adding a few centimetres of sand or woodchip. Where only pedestrian traffic will occur boards or planks 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 Where engineers consider OSB boards to be inadequate (e.g. for large plant machinery where the tracks may chew up the timber) sturdier ground protection measures will be installed such as road plates, or 100mm of 7-40mm angular gravel installed in 3D cellular confinement system (e.g.

If a piling mat is required, engineer's specifications should be referred to. 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

Author: Joe Taylor FdSc (Arboriculture), M. Arbor A

Construction Exclusion Zones

Within Construction Exclusion Zones the following restrictions shall apply

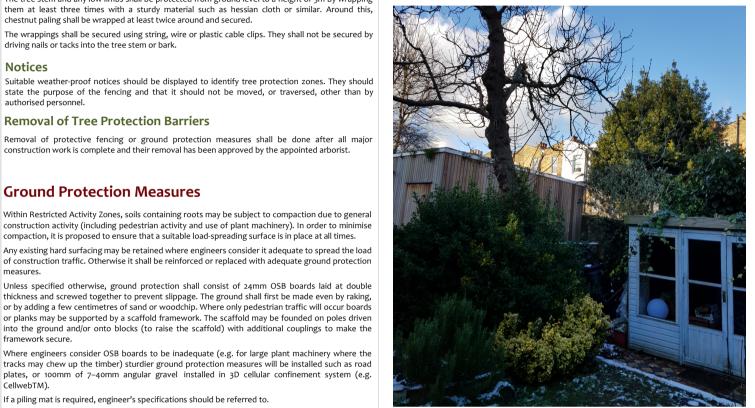
- Tree Protection Barriers shall be erected and maintained throughout the entire project as indicated on the Tree Protection Plan and under the header -Tree • These shall remain in place at all times except when authorised landscaping works
- are being undertaken. At such times, adequate ground protection measures shall be installed, and excavation shall be limited to that required for new planting. Furthermore, the project arborist shall be consulted prior to any works being undertaken in these zones. No construction activity or excavation shall occur unless agreed otherwise by the
- project arborist and local authority. • No vehicles or plant machinery shall be driven or parked.
- No tree works, other than those specified on this document shall be undertaken. No alterations of ground levels or conditions shall occur.
- · No chemicals or cement washings permitted.
- No temporary structures shall be installed.
- No fires shall be permitted • All hazardous materials (including non-essential cement products) shall be forbidden • Removal of hard surfaces, structures or turf shall be done using hand operated tools

Tree Works Specification

The following table specifies the tree works which will be required prior to the commencement of

Tree Reference	Action Required	Notes				
T2	Trim canopy to create a clearance distance the proposal.	Branches to be pruned back to a secondary branch junction or the branch collar wherever possible.				
Tı	Crown lift to 4m on the side overhanging the proposal.	Branches to be pruned back to a secondary branch junction or the branch collar wherever possible.				

The image below shows the canopy of T1 in relation to the area where the garden room is proposed:



General Restrictions - Throughout the Site

Restricted Activity Zone A

Within this zone trees roots are likely to be present where access will be required to facilitate construction. The following restrictions shall apply:

> surface is in place. The load spreading surface shall be installed and/or maintained as No fires shall be permitted within any Construction Exclusion Zone or Restricted Activity Zone. No specified under the heading Ground Protection Measures. This shall remain in place | fires shall be permitted in the vicinity of any exposed tree roots. throughout the entire demolition and construction phase or until any new permanent hard surfacing is installed. Any pedestrian activity other than very Canopy Protection occasional shall also require a suitable load spreading surface.

beneath the foundations of any structure such as wall, steps or patio. No further excavation shall occur in this zone without consulting the project arborist

and obtaining approval from the local authority. • Existing ground levels shall be retained undisturbed or raised by no more than 150mm. Ground levels may only be raised using granular topsoil (not rich in clay) or where new surfacing is proposed.

on the planning application documents unless approved by the local authority. Underground services shall not be installed in this area without prior consultation materials (including non-essential cement products) shall be forbidden. with the project arborist and a methodology agreed and approved by the local

• If roots are encountered in excess of 25mm diameter, they shall be retained Any mixing of cement based wherever possible and protected with damp sacking during times that they are materials shall take place unearthed. Any roots in excess of 10mm that need to be severed shall be pruned with outside the Construction • Storage of materials and spoil shall be avoided unless it has been agreed with the Activity Zones. Where cemen project arborist that the ground protection measures are adequate to ensure no soil is to be mixed at considerable

compaction or contamination occurs. All hazardous materials (including non-essential distances from trees and water cement products) shall be forbidden.

When installing the new pedestrian surface over the Root Protection Area of T1 and T3, the following restrictions shall apply: No other building works shall be permitted.

• Prior to the new surface being installed, no vehicles or plant machinery shall drive, cleaned within this area. operate or park until unless ground protection measures are implemented as

All other chemicals hazardous to tree health, including petrol and diesel, shall be stored in suitable specified under the heading **Ground Protection Measures**.

Excavation shall be limited to the removal of any existing vegetation and loose topsoil to a maximum depth of 200mm. Furthermore, if any roots in excess of 50mm are encountered, all excavation shall cease in order to enable the roots to be retained

Underground Services intact, and the new surface shall be installed above them.

 Any edging structure used shall be installed without excavation below this depth. Any sub-base used shall not contain any fines (finely crushed aggregate material). Paviours should be used and dry jointed (i.e. no mortar joints) to permit infiltration of rainwater through to the ground beneath.

Restricted Activity Zone B

Within this zone demolition of the existing garden room and construction of a new garden room is proposed within the Root Protection Areas of T1, T2 and T3. In order to avoid any detrimental impact upon the root systems of these trees, following additional restrictions shall apply:

cement products) shall be forbidden.

need to be installed prior to commencement of demolition. • No vehicles or plant machinery shall park or operate unless a suitable load spreading approval of the local authority with regard to its location and specification.

surface is in place. The load spreading surface shall be installed and/or maintained as specified under the heading Ground Protection Measures. Any pedestrian activity | Siting of Cabins other than very occasional shall also require a suitable load spreading surface.

 Deep strip foundations shall not be used. • Instead an above ground raft or beam supported on narrow piles shall be installed. • The narrow piles shall be hand augured into the ground. Before installing such piles, their location shall be determined by trial pits excavated to a depth of 600mm using hand tools. If any roots in excess of 40mm diameter are encountered they shall be are encountered, they shall be retained intact wherever possible and the pile shall be restrictions shall apply: relocated. Any roots that need to be severed shall be pruned with secateurs. • In the event of the roots being too close to each other, or there is no more tolerance,

 No further excavation shall occur below existing ground levels (other than that required to remove any existing vegetation or any existing hard surface and its sub-

profile, once the fins are hand manoeuvred past the roots.

sensors as is the preference of engineers and designers.

• Excavation for the trail pits shall be overseen by the project arborist.

 A ventilated void shall be maintained beneath the entire foundation. Provision shall be made for a controlled amount of rainwater to be diverted into the roots using a beam system.

the slab foundation for rainwater to be diverted onto. This may be done via a controlled overflow system or an automatic pumped system controlled by moisture

Preparatory Works

lo 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.

• No vehicles or plant machinery shall park or operate unless a suitable load spreading No fires shall be permitted beneath any tree canopy or within 5m of any tree stem, branch or foliage.

In order to protect tree canopies the following restrictions shall apply throughout the site: Removal of existing structures such as, walls, steps and hard surfaces (where applicable) shall be undertaken using hand tools or a mechanical excavator operating
 No machinery in excess of 2m shall pass beneath the canopy of any tree without being carefully marshalled in order to ensure that no branches are damaged. from outside the Restricted Activity Zone and carefully marshalled by the project

• If materials require installation or delivery beneath tree canopies, this shall be done without the marshalled in order to ensure that no branches are damaged.

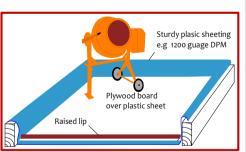
 No excavation shall occur beneath any existing hard surfacing and its sub-base or
 If materials are to be installed or delivered close to tree canopies (but not beneath them) and a use of overhead cranes. crane is required, they shall be carefully marshalled in order to ensure that branches are not

Storage of materials and spoil shall be avoided in any Construction Exclusion Zones and Restricted No new permanent or temporary structures shall be erected other than those shown on the planning application documents unless approved by the local authority.

Activity Zones unless it has been agreed with the project arborist that the ground protection measures are adequate to ensure no soil compaction or contamination occurs. All hazardous

Hazardous Materials

run-off cannot enter Room Protection Areas, then no further special measures are required. Otherwise, provision shall be made to ensure that the mixing area is contained so that no water run-off enters



the Root Protection Area of any trees (see diagram for example). Mixers and barrows shall be

containers as specified by current COSHH Regulations, and kept away from Root Protection Areas.

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.

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

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

• When demolishing the existing outbuilding, hand tools only should be used during • Roots in excess of 10mm shall be pruned with sharp secateurs. demolition. The adjacent walls shall be demolished inwards onto the footprint of the • Pruning shall be minimal and only undertaken where absolutely necessary to facilitate the site structure, and foundations/surfaces carefully lifted. Tree protection measures shall hoarding. It shall be undertaken by a reputable tree surgeon working to BS 3998 (2010). Site hoarding may be installed in place of the specified tree protection measures subject to the

other than very occasional shall also require a suitable load spreading surface.

• Storage of materials and spoil shall be avoided unless it has been agreed with the project arborist that the ground protection measures are adequate to ensure no soil compaction or contamination occurs. All hazardous materials (including non-essential consulted and specific tree protection measures agreed. The following general restrictions will apply: consulted and specific use protection in cash a great protection in cash a great consulted and specific use protection in cash as a great consulted and specific use

• No excavation shall occur within Root Protection Areas to enable cabins to be installed.

The cabins shall be founded on a suitable load spreading surface.

retained intact and the pile shall be relocated. If any roots between 25mm and 40mm If permanent fencing or decking is to be installed within Root Protection Areas, the following All post holes shall be excavated by hand and kept as narrow as possible (maximum diameter)

a hand driven helical anchor shall be employed. Such anchors have a much slimmer | • 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.

Walls shall be avoided over Root Protection Areas unless their foundations may be spanned over

void. An example of such a provision would include a 100mm gravel surface beneath Hedges may be planted within Root Protection Areas using hand tools to minimise excavation.

Timing of Operations Phase Order Activity Planning conditions relating to trees to be identified and discussed with the Project arborist and site manager All specified tree pruning to be undertaken (see Header -Tree Works Schedule). Install the tree protection barriers (fencing and ground protection boards - see Headers -Tree Protection Barriers and Ground Construction Pre-Commencement site meeting: Tree protection barriers inspected. Additional protection measures to be agreed. Variances to be agreed. Location of underground services to be agreed. Extents of excavation to be agreed. Scope of future Arboricultural Method Statement to be revised and approved inecessary. Protection measures confirmed acceptable by the local authority Demolish existing structures and remove existing surfaces where applicable. Install new garden room, hard surfaces and services taking into account restricted activities as specified in this Site meeting with project arborist. Landscaping restrictions to be agreed. Condition of retained trees to be assessed and mitigation agreed. Ground conditions to be assessed and ground remediation to be agreed. Remove protective barriers (fencing and ground protection measures as applicable). Construction Undertake restricted landscaping operations within Root Protection Areas, including (where applicable) boundary treatments, pedestrian surfaces, decking and any proposed tree planting.

Personnel and Accountability This table should be completed at the Pre-Start Meeting or earlie

Position	Name	Contact Phone & email	Roles				
Project Manager	Insert Details	Insert Details	Liaising with site manager & project arborist regarding any potential issues relating to trees. Scheduling of meeting, excavations and inspections. Overseeing this monitoring schedule. Instructing the project arborist and arranging access. Liaising with local authority regarding discharge of planning conditions and variances to the Arboricultural Method Statement.				
Site Manager	Insert Details	Insert Details	Day to day monitoring of tree protection measures. Fortnightly supply of site photographs showing all tree protection measures. Induction of all contractors. Reporting to the Appointed Arborist of any incidents or potential variations to the agreed tree protection measures.				
Project Arborist	Crown Tree Consultancy	08000 14 13 30 0203 797 7449 Info@crowntrees.co.uk	Liaising with LPA Tree Officer over all arboricultural matters. Initial inspection and signing off of tree protection barriers including ground protection measures. Monthly site visits and inspections. Oversight of excavation for basement down to 1.2m in Restricted Zones. Reporting to the local authority following site inspections and any variation or incidents.				
Local Authority	London Borough of Camden	Nick Bell 020 7974 5939 Nick.Bell@camden.gov.uk	Receipt of reports from the appointed arborist. Liaising with the appointed arborist to agree suitability of tree protection measures and any variations. Enforcement. Advice and assistance with the discharge of planning conditions relating to trees.				
Additional Contact	Insert Details	Insert Details	Insert Details				
Additional Contact	Insert Details	Insert Details	Insert Details				

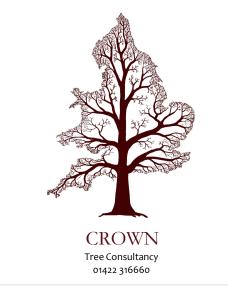
Site Monitoring Schedule

Inspection	Site Attendees	Comments
Pre- Start Desk-top To occur prior to any works taking place on the site.	N/A.	Project Manager and Site manager to study this Method Statement & contact the Project Arborist to agree all protection measures.
Pre-Start Meeting After tree works completed & tree protection barriers / ground protection measures installed. Prior to any other activity, inc. demolition & soil stripping.	Site manager, project arborist. Tree Officer invited.	Tree protection fencing locations & specification checked. Ground protection measures checked. Contractors to be inducted to all relevant aspects of the Arboricultural Method Statement. Responsibilities checked and acknowledged. Adherence to the Arboricultural Method Statement to be discussed and agreed. Report on findings to be sent to the local authority tree officer (see accompanying reporting template)
Overseeing Installation of foundations in Restricted Activity Zone B. All excavation to be overseen.	Site manager and project arborist.*	Two week's notice to be given prior to commencement. Excavation to be as specified in this Method Statement. Roots to be retained or pruned as specified in this Method Statement. Activities to be recorded and photographed. Mitigation measures to be employed specified by the project arborist.
Post-Construction Meeting Post external construction activity but prior to removal of fencing & landscaping operations.	Site manager, project arborist. Tree Officer invited.	Retained trees inspected. Ground conditions assessed and mitigation measures agreed where appropriate. Further landscaping operations and restrictions to be agreed.

* Where agreed with the L.A. it may be acceptable to supply photographs of the fencing to avoid the necessity for a site visit.

Tree Data Schedule

Reference		Height (m)	Crown Ht (m)	Diameter (cm)	Crown Scaled Tree Spread (m) Diagram (m)				Recommendations (Independent of any		Vigour	Amenity Value
	Age & Species				W E			Notes		t proposals)	Physiological Condition	Life Expectancy (yrs)
_			5	ij	S				Priority	Inspect Freq (yrs)	Structural Condition	
Semi-Mature Ash Fraxinus excelsior.				3.5	[!5	Form: History:	Single stemmed and leaning with a sparse crown. No significant defects observed.	No action	required	Very Low	Low	
		8	3	29	4 2		Defects: Other:	s: Significant cavities developing at 2.5 meters and 5 meters above ground level Scattered minor dead branches throughout. T1 has been plotted according to measurements provided	No action required.		Very Poor	10-20
	Fraxinus excelsior.						to Crown Consultants following the original tree survey.	n/a	1.5	Poor	(
Semi-Mate Elder	Semi-Mature	Elder		15				High	Low			
	Elder				1		Position: Form:	Position: Adjacent rear boundary. Form: Shrub with multiple entwined stems.	No action required.		Good	
		4.5		22	2 2	-	History: No evidence of significant pruning. Defects: No significant defects observed.				10-20	
	Sambucus nigra.					,	belects. No significant defects observed.	n/a	3	Fair	C	
Young Bay Laurel Laurus nobilis	Young					15					High	Low
	Bay Laurel		1	22 @	1		Position: Form:	Form: Multi-stemmed at ground level with a compact crown. History: Maintained by regular trimming.	No action required.		Good	
		2.5		Base	1 1	-	History: Maintained by regular trimming. Defects: No significant defects observed.				Good	20-40
	Laurus nobilis.					, 🔷		n/a	3	C		
T4 Strawberry T	Semi-Mature					[!5	Position:	Situated on third party land.			Moderate	Low
	Strawberry Tree			20 @ Base	1.5	-	Form:	Multi-stemmed at ground level with a compact crown. y: No evidence of significant pruning.	No action required.			
	=	3				-	Defects: No significant defects observe				Good	20-40
	Arbutus unedo.					,		Limited inspection, dimensions estimated.	n/a	3	Fair	C
Т5	Semi-Mature					15	Position:	Situated on third party land.			Moderate	Low
	Prunus Prunus sp.	5.5	3	3 13	1.5	Form: Twin-	Twin-stemmed at 4m with a compact crown.	No action required.				
					1.5 1.5	-	,	Defects: No significant defects observed.			Fair	10-20
					1.5	Oth	Other:		n/a	3	Fair	C



Tree Protection Plan

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BS 5837 Root Protection Area (radius = 12xstem diameter Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building. Root Protection Area having been amended to account for for site conditions T_1 = Tree No 1 G_2 = Group No 2 H_3 = Hedge No 3

Tree Retention Categories Category A tree O Category B tree Category C tree Category U tree

ellent form. Retention of these trees is highly desirable Usually maturing trees, or younger trees with good form. Retense trees is desirable though less than Category A trees rkable trees of low quality and merit. Individual specimer Trees unsuitable for retention due to their very poor condition

Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with CCL 10732 Tree Protection Plan (Existing Layout with Proposals Overlaid) 68 Caversham Road Paper Size: A1

