



65 CAMDEN SQUARE
LONDON, NW1 9XD

**Arboricultural Report, Tree Constraints Plan
&
Impact Assessment**

Surveyor: John Crawshaw M.Arbor.A.

Survey Date: Wednesday, 3 July 2019

Report Date: Friday, 5 July 2019

Contents

| | |
|--|----|
| 1. Introduction | 3 |
| 1.1. Brief | 3 |
| 1.2. Qualifications and experience | 3 |
| 1.3. Documents and information provided | 3 |
| 1.4. Scope of this report | 3 |
| 1.5. Limitations of use and copyright | 3 |
| 2. Site Visit/Observations & Data Collection | 3 |
| 2.1. Site visit | 3 |
| 2.2. Site description | 3 |
| 2.3 Identification and location of the trees | 4 |
| 2.4. Tree Survey Schedule | 5 |
| 2.4.1. Glossary of Terms | 5 |
| 2.4.3. Tree Survey Methodology | 6 |
| 3. Photographs | 9 |
| 4. Tree Constraints Plan | 10 |
| 5. Tree Impact Plan | 11 |
| 6. Arboricultural Impact Assessment | 12 |
| 6.1 Proposals | 12 |
| 6.2 Impact Assessment | 12 |
| 7. Conclusions | 13 |
| Appendix 1. List of Tree Names | 14 |

1. Introduction

1.1. Brief

I am instructed to inspect the trees at **65 Camden Square, London, NW1 9XD** and to provide an arboricultural report and impact assessment for the trees located within and adjacent to the site, as shown on the Tree Constraints Plan enclosed.

1.2. Qualifications and experience

I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my experience and qualifications. RFS Cert Arb.
M. Arbor A

1.3. Documents and information provided

I was provided with proposal plans.

1.4. Scope of this report

This report is limited the trees shown on the enclosed plan. Trees with a diameter of less than 75mm, shrub species and trees considered to be outside the zone of influence have not been surveyed in line with BS5837 2012.

1.5. Limitations of use and copyright

All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, or stored in any retrieval system of any nature, without our written permission. Its content and format are for the exclusive use of the addressee in dealing with this site. It may not be sold, lent, hired out or divulged to any third party not directly involved in this site without the written consent of Central London tree Surveys.

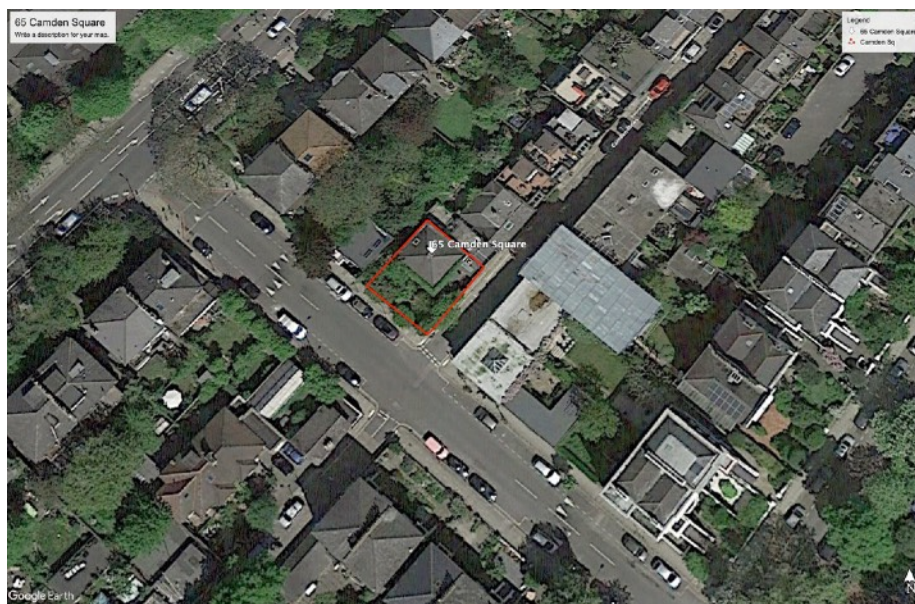
2. Site Visit/Observations & Data Collection

2.1. Site visit

I carried out the tree survey on the **Wednesday, 3 July 2019** my observations were from ground level only.

2.2. Site description

The survey site is within the front garden to the property and comprises grass areas containing a variety of trees and shrubs.



2.3 Identification and location of the trees

The trees have been identified and are listed within the Tree Survey Schedule. I have plotted the locations of the trees on the plan included. All the relevant information on it is contained within this report and the provided documents. Only the significant trees are included in this report; trees with a diameter of less than 75mm (BS5837 2012) are not included unless their position was felt to be significant. All trees have been allocated a classification. The classification cascade chart can be found below.

| CASCADE CHART FOR TREE QUALITY ASSESSMENT (from British Standard 5837:2012 "Trees in Relation to Design, Demolition and Construction") | |
|---|---|
| TREES FOR REMOVAL | |
| Category and Definition | Criteria |
| <p>Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years</p> | <p> <ul style="list-style-type: none"> ➤ Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). ➤ Trees that are dead or are showing signs of significant, immediate and irreversible overall decline. ➤ Trees infested with pathogens of significance to the health and/or safety of other trees nearby), or very low quality trees suppressing adjacent trees of better quality. <p>NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7</p> </p> |
| TREES TO BE CONSIDERED FOR RETENTION | |
| Category and Definition | Criteria – Subcategories |
| | <p>1. Mainly Arboricultural Qualities Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue).</p> <p>2. Mainly Landscape Qualities Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p> <p>3. Mainly Cultural Values, including Conservation Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).</p> |
| <p>Category A Those of high quality with a estimated remaining life expectancy of at least 40 years</p> | <p>Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of unsympathetic past management and storm damage) such that they are unlikely to be suitable for retention for beyond 40 years; or lacking the merit for Category A</p> |
| <p>Category B Those of moderate quality with a estimated remaining life expectancy of at least 20 years</p> | <p>Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality</p> |
| <p>Category C Those of low quality with an estimated life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.</p> | <p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</p> <p>Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits</p> |
| Identification on Plan | |
| | <p>DARK RED</p> <p>LIGHT GREEN</p> <p>MID BLUE</p> <p>GREY</p> |

2.4. Tree Survey Schedule

| ID | Species | Dia | | Canopy | | | | First | Crown | Age | Yrs | Cat | Observations | Recommendations | RPA (r) | RPA (a) | |
|----|----------------|-----|-------|--------|-----|-----|-----|-------|--------|-----|--------------|-----|--------------|--|---|---------|------|
| | | H/T | Stems | mm | N | E | S | W | Branch | | | | | | | | H/T |
| T1 | Tree of Heaven | 10 | 5 | 250 | 2 | 3 | 2 | 2 | 5E | 5 | Early Mature | 10 | C | Minor deadwood. Subject to historic crown reduction work. Inclusion at base has minor decay and decay fungus present. Rope attachment point is causing potential weak point. | Monitor condition. Longevity of tree is compromised, hence lower classification | 3 | 28.3 |
| T2 | Ash | 5 | 5 | 175 | 2.5 | 2.5 | 2.5 | 2.5 | 2E | 2 | Young | 10 | C | Tree outgrowing planter. Physical damage to wall and pathway. Limbs resting on lamp. | Monitor/possible removal | 2.1 | 13.9 |
| T3 | Ash | 8 | 5 | 150 | 2 | 1.5 | 1 | 1.5 | 4E | 4 | Young | <5 | U | Specimen buckling on main stem, sign of potential weakness. Canopy in physical contact with house roof | Pruning away from house wouldn't leave much of a tree. Recommend full removal | 1.8 | 10.2 |
| T4 | Magnolia | 4 | 5 | 75 | 1.5 | 1.5 | 1.5 | 1.5 | 2N | 2 | Young | 40 | C | Good overall condition | None | 0.9 | 2.5 |
| T5 | Cotoneaster | 3 | 5 | 125 | 1.5 | 1.5 | 1.5 | 1.5 | 2E | 2 | Early Mature | <10 | C | Decay in main stem | Monitor/possible removal | 1.5 | 7.1 |

2.4.1. Glossary of Terms

ID: Identification on position plan

Name: Common species name

H/T: Current tree height

Stems: Single or Multiple stems

Dia: Diameter of stem at 1.5m above ground (mm)

Canopy: Canopy measurements N,E,S & W

Crown Height: Height of lowest part of crown

First Branch: Height and direction of first branch

Age: Current age

Yrs: Approximate years of life remaining

Cat: Category of importance in line with current British Standards

Obs: Observations

Recs: Recommendations

RPA (r): Root protection area (approximate area of roots Radius of circle)

RPA (a): Root protection area (approximate area of roots Area of circle)

2.4.3. Tree Survey Methodology

Trees, tree groups and woodlands have been considered following evaluation into one of four categories (U, A, B, C) based on tree quality as outlined in British Standard 5837 (2012) which has been followed. Categorisation of trees, following the British Standard, gives an indication as to the trees' importance in relation to the site and the local landscape and also, the overall value and quality of the existing tree stock on site. This allows for informed decisions to be made concerning which trees should be removed or retained, should development occur.

For a tree to qualify under any given category it should fall within the scope of that category's definition. In the categories A, B, C which collectively deal with trees that should be a material consideration in the development process, there are three sub-categories which are intended to reflect arboricultural, landscape and cultural values respectively. Category U trees are those which would be lost in the short-term for reasons connected with their poor physiological or structural condition. They are, for this reason, not usually considered in the planning process.

In assigning trees to the A, B or C categories the presence of any serious disease or tree related hazards are taken into account. If the disease is considered fatal and / or irremediable, or likely to require sanitation for the protection of other trees it may be categorised as U, even if they are otherwise of considerable value.

Category (A) - trees whose retention is most desirable and is of high quality and value. These trees are considered to be in such a condition as to be able to make a lasting contribution (a minimum of 40 years) and may comprise:

- Trees which are particularly good examples of their species especially rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue);
- Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups); and
- Trees or groups or woodlands of significant conservation, historical, commemorative or other value (e.g. Veteran or wood-pasture trees).

Category (B) - are trees whose retention is considered desirable and are of moderate quality and value. These trees are considered to be in such a condition as to make a significant contribution (a minimum of 20 years) and may comprise:

- Trees that might be included in the high category but because of their numbers or slightly impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage), are downgraded in favour of the best individuals;
- Trees present in numbers such that they form distinct landscape features and attract a higher collective rating than they would as individuals. Individually these trees are not essential components of formal or semi-formal arboricultural features, or trees situated mainly internally to the site and have little visual impact beyond the site; and
- Trees with clearly identifiable conservation or other cultural benefits.

Category (C) - are trees that could be removed to facilitate the development and are considered to be of low quality and value. These trees are in an adequate condition to remain until new planting could be established (a minimum of ten years) or are young trees with a stem diameter below 150mm and may comprise:

- Trees not qualifying in higher categories;

- Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value and or trees offering low or only temporary screening benefit; and
- Trees with very limited conservation or other cultural benefits.

Category (U) - trees for removal are those trees in such a condition that any existing value would be lost within 10 years and which should in the current context be removed for reasons of sound arboricultural management. Trees within this category are:

- Trees that have a serious irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees;
- Trees that are dead or are showing signs of significant, immediate or irreversible overall decline; and
- Trees infected with pathogens of significance to the health and or/safety of other trees nearby trees or very low quality trees suppressing adjacent trees of better quality.

Species has been recorded by common name and recorded as such in the Arboricultural Data schedule. Height has been estimated in meter and stem diameters have been measured at 1.5 metres above ground level and recorded in millimetres. Crown spreads have been measured in half meters and taken to the point of greatest spread unless the crown has presented a pronounced asymmetrical form and therefore measurements have been taken for the four cardinal points. The measurements have always been considered in the following sequence, North, East, South, and West, and therefore appear as such within the Tree Survey Schedule.

In the assessment particular consideration has been given to the following when deciding the most appropriate British Standard Category and Sub-Category allocation:

- a. the health, vigour and condition of each tree;
- b. the presence of any structural defects in each tree and its life expectancy;
- c. the size and form of each tree and its suitability within the context of the proposed scheme; and
- d. the location of each tree relative to existing site features, e.g. its value as a screen or as a skyline feature.

Age class is assessed according to the age class categories referred to in BS 5837.

1. Y: Young trees up to five years of age;
2. SM: Semi-mature, trees less than 1/3 life expectancy;
3. EM: Early mature, trees 1/3 - 2/3 life expectancy;
4. M: Mature trees over 2/3 life expectancy;
5. OM: Over mature - declining or moribund trees of low vigour; and
6. V: Veteran - Characteristics have been noted where a tree exhibits certain characteristic features of veteran trees.

Major defects or diseases and relevant observations have also been recorded under Structural Condition. The assessment for structural condition has included inspection of the following defects:

1. The presence of fungal fruiting bodies around the base of the tree or on the stem, as they could possibly indicate the presence of possible internal decay;
2. Soil cracks and any heaving of the soil around the base indicating possible root plate movement;
3. Any abrupt bends in branches and limbs resulting from past pruning, as it may be an indication of internal weakness and decay;
4. Tight or weak 'V' shaped unions and co-dominant stems;

5. Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994);
6. Cavities as a result of limb losses or previous pruning;
7. Broken branches;
8. Storm damage;
9. Canker formations;
10. Loose bark;
11. Damage to roots;
12. Basal, stem or branch / limb cavities;
13. Crown die-back;
14. Abnormal foliage size and colour;
15. Any changes to the timing of normal leaf flush and leaf fall patterns; and
16. Other pathological diseases affecting any part of the tree.
17. Major defects or diseases and relevant observations have also been recorded. Dead wood has been defined as the following:
 18. Twigs and small branch material up to 5cm in diameter;
 19. Minor dead wood 5cm to 10cm in diameter; and
 20. Major dead wood 10cm in diameter and above.

The survey was completed from ground level only, aerial inspection of trees was not undertaken. Investigations as to the internal condition of a tree have not been undertaken. Further investigations of this type can be made and have been recommended where it has been considered necessary, within the report although these investigations are beyond the scope of this report.

Evaluation of the trees condition given within this assessment applies to the date of survey and cannot be assumed to remain unchanged. It may be necessary to review these within 12 months, in accordance with sound arboricultural practice.

The individual positions of trees and groups of trees recorded in the Tree Survey Schedule. have been shown on the Tree Constraints Plan, in Appendix 2.0. The positions of trees are based on a topographical / land survey supplied by the development and client in dwg. format for the purpose of plotting the trees.

The Root Protection Areas (RPA) to be required by the individual and groups of trees are indicated by the Tree Constraints element of the above plans. The Root Protection Areas are formulated as described below.

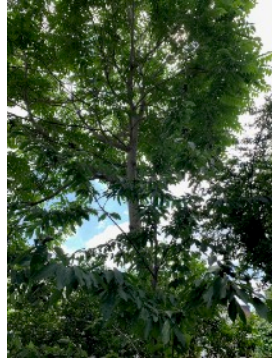
Below ground constraints to future development is represented by the area surrounding the tree that contains sufficient rooting volume to ensure survival of the tree, which need protecting in order for the tree to be incorporated into any future scheme, without adverse harm to the tree or structural integrity of buildings. This is referred to as the RPA and is shown as a circle of a given radius.

The circle may be modified in shape to maintain a similar total area depending on the presence of surrounding obstacles. Where groups of trees have been assessed, the RPA has been shown based on the maximum sized tree in any one group and so would automatically exceed the RPA's required for many of the individual specimens within the group. A RPA is equivalent to a circle with a radius 12x the stem diameter for single stem trees and 10x the basal diameter for trees with more than one stem arising less than 1.5 meters above ground level.

3. Photographs



T's 1 & 3



T1 canopy



T1 decay within base



T1 rope/weak point



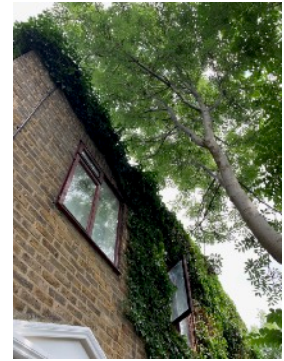
T2 restricted growth



T2 onto of lamppost



T3 Structural weakness



T3 on roof



T2 physical damage to wall and pathway

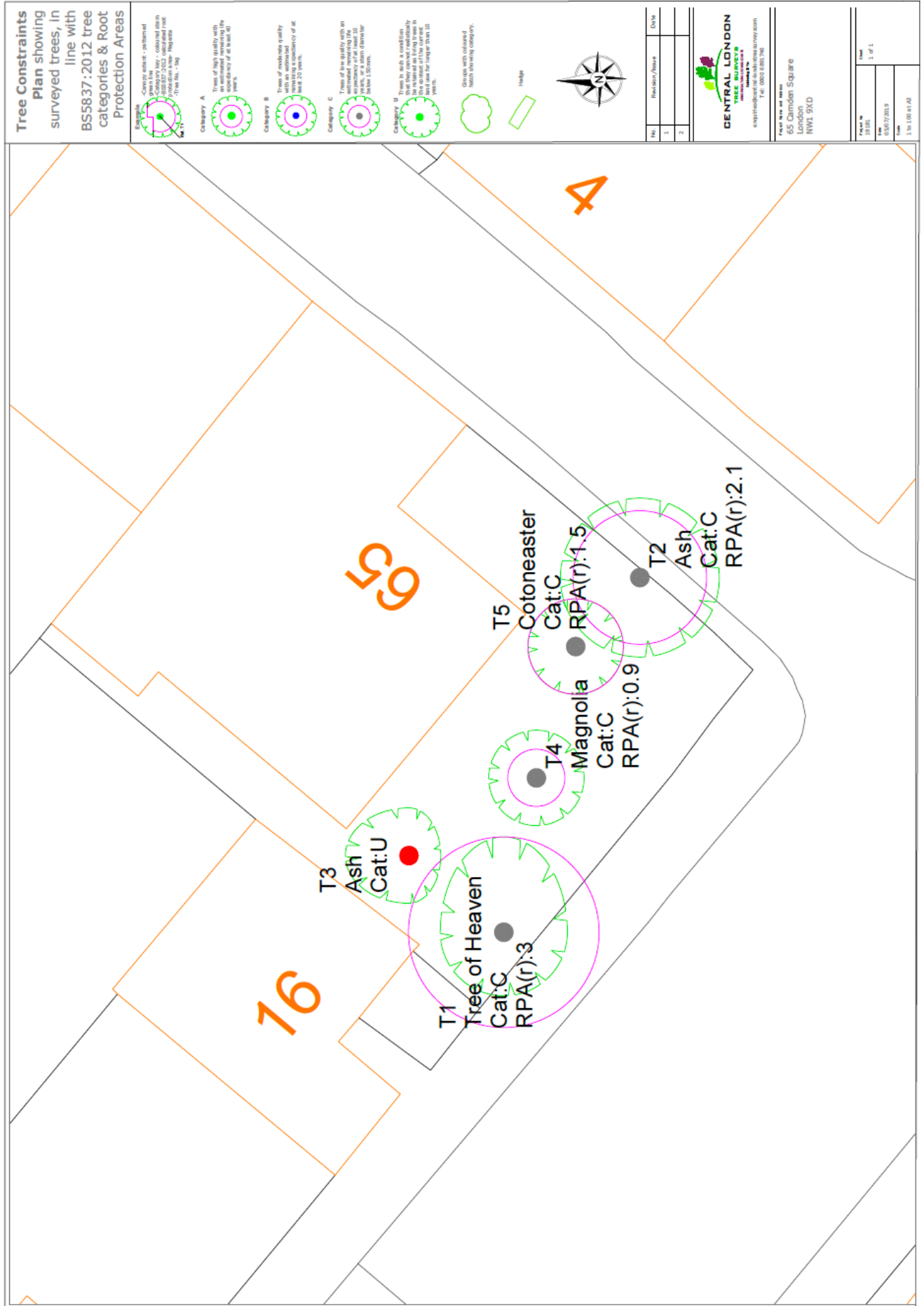


T5 decay within main stem



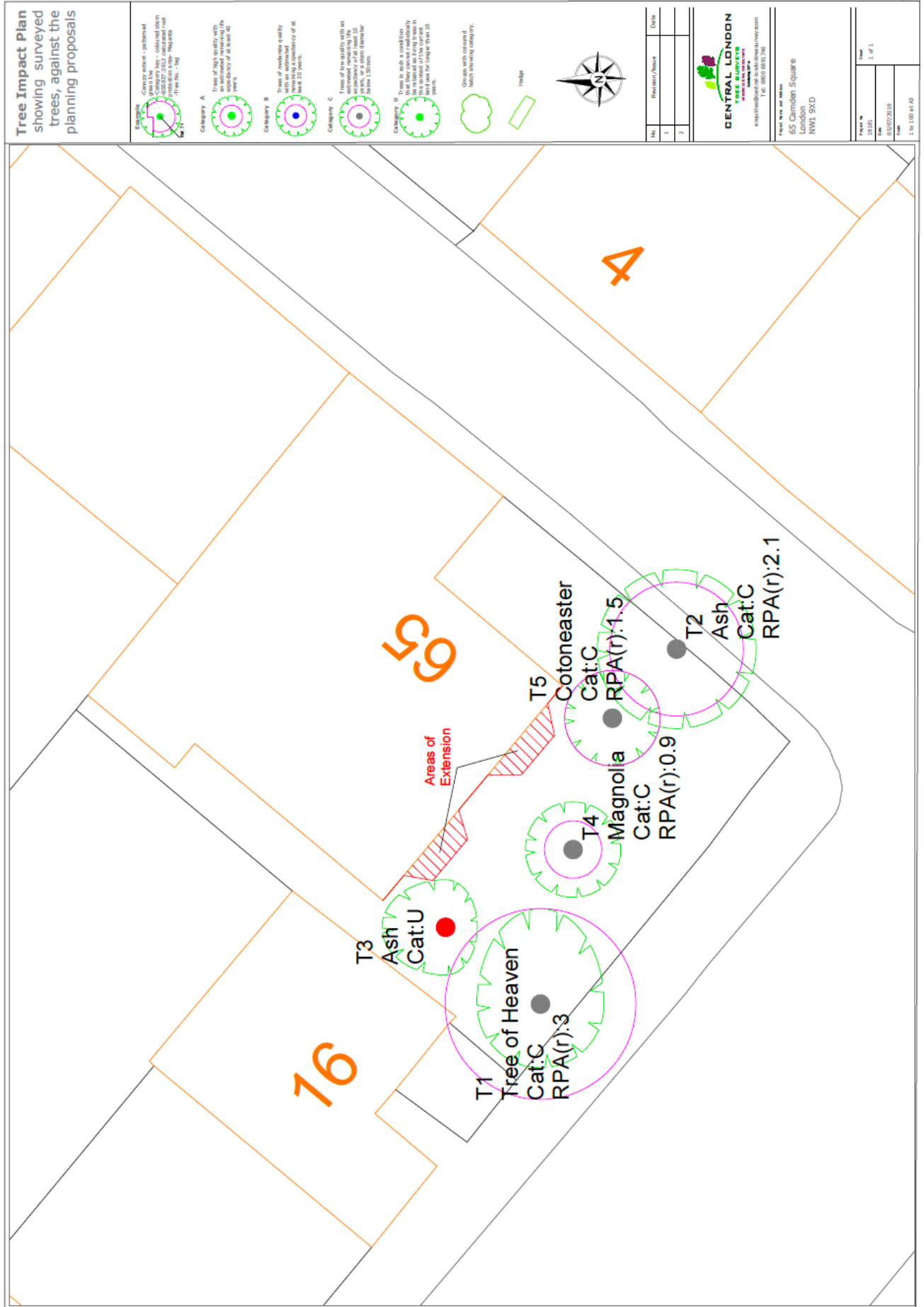
4. Tree Constraints Plan

Plan below not to scale as PDF. Please refer to original drawing for scaling



5. Tree Impact Plan

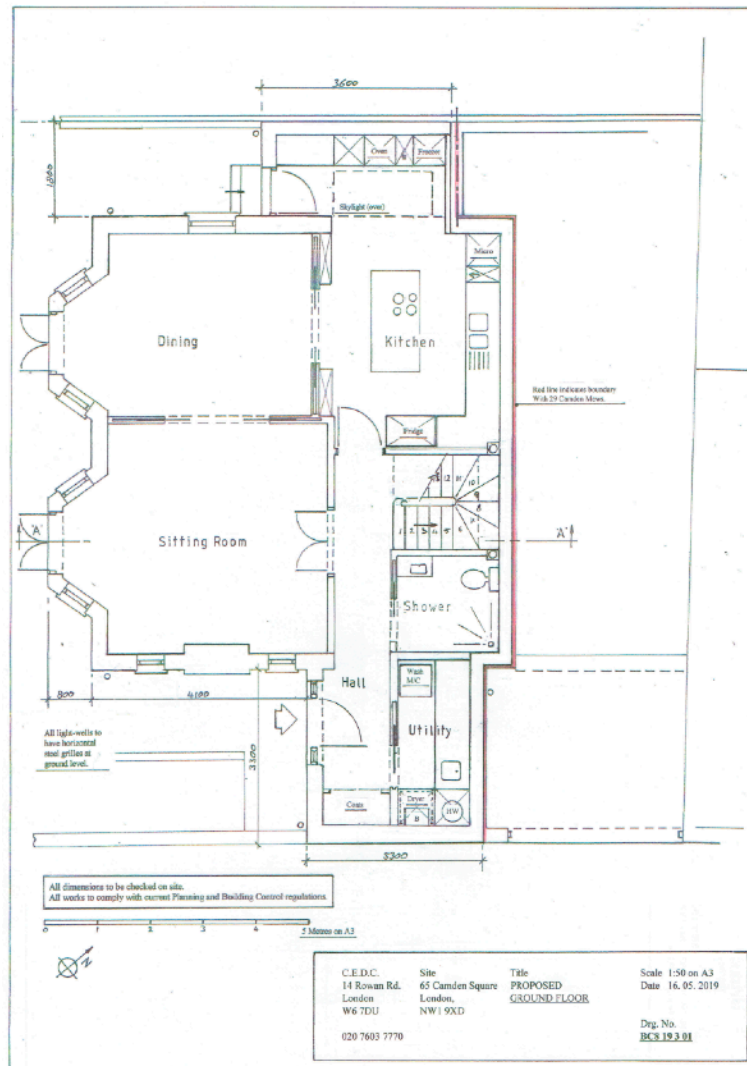
Plan below not to scale as PDF. Please refer to original drawing for scaling.



6. Arboricultural Impact Assessment

6.1 Proposals

The proposals are to re-develop the property as shown on the Impact Plan.



6.2 Impact Assessment

The RPA's are designed to represent the extent of roots and the area in which a tree needs for support and water and nutrient uptake. A reduction in this, can cause stability issues and even kill the trees.

The proposals (to the dimensions given) have been positioned on the Tree Impact Plan to give an indication of impact to the trees.

The reconstruction and main building works will not impact upon the trees within this report. The two extended sections to the front are the only areas to extend outside the current footprint.

All the trees within this report are classified as low quality trees, either due to size and visual amenity value or in light of structural issues within the tree or direct physical damage to nearby structures.

T3 is causing damage to the roof and has a weak point within the main stem. Any pruning, to alleviate the problems, would not leave much in the way of canopy and the internal stress issue is likely to become worse over time. It is recommended that this tree is removed and replaced.

The remaining trees will not be directly impacted upon from the proposals.

Consideration should be made to how the demolition and construction phases will take place in relation to the trees. Access for plant and machinery, materials etc are likely to be in very near proximity and the erection of protection measures may inhibit safe and practical working.

In light of the above, consideration should be given to the removal of some trees to facilitate this. For example T's 2, 4 & 5.

Mitigation planting of replacement trees of a higher quality and increased biodiversity could be implemented successfully.

7. Conclusions

In light of the tree constraints set against the proposals, below are the conclusions of the impact assessment upon the trees within this survey.

T 3 should be removed. The other trees could be retained during the site operations, however they may restrict safe and practical working and may it be prudent to remove some of the trees and then replace with superior specimens.

Protection measures should be set in place if trees are to be retained.

Any practical tree work should be carried out by a competent contractor with the relevant insurance and experience. The contractor should carry out all tree works to BS 3998 *Recommendations for Tree Work* (2010) as modified by more recent research.

Reference should be made to the Wildlife and Countryside Act (1981), statutory protection of bird and bat species, European Protected Species legislation and local planning policy.

Appendix 1. List of Tree Names

| | |
|--------------------|--|
| Ash | Fraxinus excelsior |
| Aspen | Populus tremula |
| Atlas cedar | Cedrus atlantica |
| Austrian pine | Pinus nigra |
| Bay willow | Salix pentandra |
| Beech | Fagus sylvatica |
| Bird cherry | Prunus padus |
| Black cottonwood | Populus trichocarpa |
| Black poplar | Populus nigra |
| Black walnut | Juglans nigra |
| Box | Buxus sempervirens |
| Caucasian fir | Abies nordmanniana |
| Cedar of Lebanon | Cedrus libani |
| Coast redwood | Sequoia sempervirens |
| Common alder | Alnus glutinosa |
| Common juniper | Juniperus communis |
| Common lime | Tilia x vulgaris |
| Common silver fir | Abies alba |
| Common walnut | Juglans regia |
| Corsican pine | Pinus nigra |
| Crab apple | Malus sylvestris |
| Crack willow | Salix fragilis |
| Cricket-bat willow | Salix alba, var caerulea |
| Deodar cedar | Cedrus deodara |
| Douglas fir | Pseudotsuga menziesii |
| Downy birch | Betula pubescens |
| English elm | Ulmus procera |
| Eucalypts | Eucalyptus species |
| European larch | Larix decidua |
| Fig | Ficus carica |
| Field maple | Acer campestre |
| Giant fir | Abies grandis |
| Grey alder | Alnus glutinosa |
| Grey poplar | Populus x canescens |
| Hawthorn | Crataegus monogyna |
| Hazel | Corylus avellana |
| Holly | Ilex aquifolium |
| Holm oak | Quercus ilex |
| Honey Locust | Gleditsia triacanthos |
| Hornbeam | Carpinus betulus |
| Horse chestnut | Aesculus hippocastanum |
| Italian alder | Alnus cordata |
| Japanese larch | Larix kaempferi |
| Japanese zelkova | Zelkova serrata |
| Large-leaved lime | Tilia platyphyllos |
| Lawson cypress | Chamaecyparis lawsoniana |

| | |
|----------------------|--|
| Lodgepole pine | Pinus contorta |
| Lombardy poplar | Populus nigra var. italica |
| London plane | Platanus x hispanica |
| Maritime pine | Pinus pinaster |
| Midland thorn | Crataegus laevigata |
| Monkey puzzle | Araucaria araucana |
| Monterey cypress | Cupressus macrocarpa |
| Monterey pine | Pinus radiata |
| Noble fir | Abies procera |
| Norway maple | Acer platanoides |
| Norway spruce | Picea abies |
| Oriental plane | Platanus orientalis |
| Pedunculate oak | Quercus robur |
| Red alder | Alnus rubra |
| Red oak | Quercus rubra |
| Robusta poplar | Populus x robusta |
| Rowan | Sorbus aucuparia |
| Sallow (Goat willow) | Salix caprea |
| Scots pine | Pinus sylvestris |
| Serotina poplar | Populus serotina |
| Sessile oak | Quercus petraea |
| Silver birch | Betula pendula |
| Sitka spruce | Picea sitchensis |
| Small-leaved lime | Tilia cordata |
| Smooth-leaved elm | Ulmus carpiniifolia |
| Snakebark Maple | Acer capillipes |
| Southern beech | Nothofagus antarctica |
| Swamp cypress | Taxodium distichum |
| Swedish whitebeam | Sorbus intermedia |
| Sweet chestnut | Castanea sativa |
| Sycamore | Acer pseudoplatanus |
| Tree of Heaven | Ailanthus altissima |
| Turkey oak | Quercus cerris |
| Wellingtonia | Sequoiadendron giganteum |
| Western hemlock | Tsuga heterophylla |
| Western red cedar | Thuja plicata |
| White poplar | Populus alba |
| White willow | Salix alba |
| Whitebeam | Sorbus aria |
| Wild cherry (Gean) | Prunus avium |
| Wild service tree | Sorbus torminalis |
| Wych elm | Ulmus glabra |
| Yew | Taxus baccata |



0800 6891746

07734328633

enquiries@central-londontreesurveys.com

