

Tree Survey, Arboricultural Impact Assessment Preliminary Arboricultural Method Statement & Tree Protection Plan In Accordance with BS 5837:2012

Proj. No 9513		Phase 2A - Agar Grove, Camden, London, NW1 9TY		
Client:			Grant As	sociates
Date of Report:		25/05/2022	Revision:	Original

Tree Survey, Arboricultural Impact Assessment, Preliminary Arboricultural Method Statement & Tree Protection Plan – In Accordance with BS 5837:2012

Summary

The purpose of this report is to provide a preliminary consideration of the arboricultural implications created by the proposed development. In accordance with the feasibility and planning sections of BS5837:2012 *"Trees in relation to design, demolition and construction – Recommendations"*, trees deemed to be within the influencing distance of the projected construction have been evaluated for quality, longevity, and initial maintenance requirements. Where trees do not have to be removed for health and safety reasons, a detailed and objective assessment has been made of the consequences of the intended layout.

In this circumstance it is intended to construct a new apartment block, including hard and soft landscaping, a cycle store and children's play area as part of the wider Agar Grove re-development. As a result, one group of trees was inspected. The arboricultural related implications of the proposal are as follows:

- 1 It is not necessary to fell any trees to achieve the proposed layout.
- 2 The alignment of the new apartment block and cycle store nominally intrudes within the Root Protection Areas (RPA) of the group of trees to be retained – G001. This has only a minor influence on the Root Protection Areas and as such it is considered appropriate to undertake linear root pruning, thus obviating the need for specialist construction techniques at these locations.
- Where the alignment of new structures does not encroach within the Root Protection Areas of any trees that are to be retained, and as assessed in accordance with BS5837:2012, no specialist foundation designs, or construction techniques will be required to prevent damage to tree roots. Specialist foundations may still be required for other reasons, including mitigating the influencing distance of tree roots, and as such expert advice should always be sought from a structural engineer.
- The proposal requires the removal of existing hard surfacing within the theoretical Root Protection Areas of the following retained items – G001. It is considered likely that roots will be present below the hard surfacing, either within the subbase or below. To ensure there is no damage to the roots of these specimens, works must only be completed under Arboricultural supervision and primarily by hand (supported with appropriate lightweight machinery or Air Spade and only if agreed by the supervising Arboriculturist) within the calculated RPA.
- 5 It is proposed to construct replacement hard surfaces in the RPA of G001. The new hard surfacing must utilize the existing sub-base to that which has been removed (or an increase in sub-base if necessary to support the new finished surface) to prevent adverse impact on underlying roots. The process must allow for a barrier of sharp sand and soil mix if roots are exposed during the lifting of the original surface. The finished surface should be permeable to allow water filtration to the underlying soil and roots. The new hard surface may also be constructed using a 'No Dig' confinement system if desired or if required for the robustness of the site use.



- 6 Construction of foundations or structural supports for new Children's Play Equipment encroaches within the RPA of one group of trees to be retained – G001. If the foundations of the play equipment cannot be installed on top of the existing hard surfacing sub-base without cutting into the soil, it will be necessary for a Structural Engineer, in conjunction with an Arboriculturalist, to design specialised foundations (e.g. micro-piles or screw piles with a limited number of stabilising concrete footings/pads or pad supported by piles) where the footprint of the structure coincides with the RPA.
- 7 The construction process may require the installation of a temporary load baring working surfaces (ground protection) to safeguard tree roots in soft earth of newly the exposed sub-base of the hard surfacing once the top surface is removed.
- 8 This report recommends that specialist advice is obtained by expert practitioners in other disciplines. Such input should always be sought prior to the submission of this report in support of a planning application in order to demonstrate that the techniques and methods hereby proposed are achievable. In this particular circumstance it is necessary to contact the following:
 - Structural Engineer (foundation design(s) items 4.4.1 & 4.4.2)
 - Civil Engineer ("no dig" surfacing, item 4.4.4)
- 9 All trees and landscape features that are to remain as part of the development should suffer no structural damage provided that the findings with this report are complied with in full. This includes ensuring that protective fencing is erected as detailed at items 4.6 and 5.1 of this report.
- 10 Post Planning Permission Subject to achieving Planning Permission, a detailed Arboricultural Method Statement and Tree Protection Plan will be required. This will include the following: fencing type, ground protection measures, "no dig" surfacing, access facilitation pruning specification, phasing and an extensive auditable monitoring schedule.



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1.0 Introduction

1.1 Terms of Reference

- 1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Grant Associates to prepare a Tree Survey, Arboricultural Impact Assessment, Preliminary Arboricultural Method Statement and Preliminary Tree Protection Plan for the existing trees at Phase 2A Agar Grove, Camden, London, NW1 9TY.
- 1.1.2 The site survey was carried out on 06/05/2022. The relevant qualitative tree data was recorded in order to assess the condition of the existing trees, their constraints upon the prospective development and the necessary protection and construction specifications required to allow their retention as a sustainable and integral part of the completed development.
- 1.1.3 Information is given on condition, age, size and indicative positioning of all the trees, both on and affecting the site. This is in accordance with the British Standard 5837:2012 *Trees in relation to design, demolition and construction Recommendations.*

1.2 Scope of Works

- 1.2.1 The survey of the trees and any other factors are of a preliminary nature. The trees were inspected on the basis of the Visual Tree Assessment (VTA) method as developed by Mattheck and Breloer (1994). The trees were inspected from ground level with no climbing inspections undertaken. It is not always possible to access every tree and as such some measurements may have to be estimated. Trees with estimated measurements are highlighted in the schedule of trees. No samples have been removed from the site for analysis. The survey does not cover the arrangements that may be required in connection with the removal of existing underground services.
- 1.2.2 Whilst this is an arboricultural report, comments relating to non arboricultural matters are given, such as built structures and soil data. Any opinion thus expressed should be viewed as provisional and confirmation from an appropriately qualified professional sought. Such points are clearly identified within the body of the report.
- 1.2.3 An intrinsic part of tree inspection in relation to development is the assessment of risk associated with trees in close proximity to persons and property. Most human activities involve a degree of risk with such risks being commonly accepted, if the associated benefits are perceived to be commensurate. In general, the risk relating to trees tends to increase with the age of the trees concerned, as do the benefits. It will be deemed to be accepted by the client that the formulation of the recommendations for all tree management will be guided by the cost-benefit analysis (in terms of amenity), of the tree work.

1.3 **Documentation**

- 1.3.1 The following documentation was provided prior to the commencement of the production of this report;
 - Email of instruction from Ms Hobart dated 11/04/2022.
 - Definition of site boundary, description of requirements/deadlines.
 - Topographical survey.
 - Proposed site plan (Grant Associates AGC377-GRA-2A-DR-L-1003 04).



2.0 The Site

2.1 Overview

2.1.1 The site is a portion of the wider Agar Grove re-development known as Phase 2A, which is located in the southeast corner, immediately west of Camley Street and immediately north of a railway line.

2.2 Soils

- 2.2.1 The soils type commonly associated with this site are slowly permeable and seasonally wet, slightly acid but base-rich loams and clays. They are of moderate fertility and mainly support seasonally wet pastures and woodlands type habitats. This soil type constitutes approximately 19.9% the total English land mass.
- 2.2.2 The data given was obtained from a desk top study which provides indications of likely soil types. By definition, this information is not comprehensive and therefore any decisions taken with regards the management, usage or construction on site should be based on a detailed soil analysis.
- 2.2.3 Further to item 2.2.2, this report provides no information on soil shrinkability. It may be necessary for practitioners in other disciplines (e.g., engineers considering foundation design) to obtain this data as required.

2.3 **Statutory Tree Protection**

2.3.1 Hayden's Arboricultural Consultants Limited have been unable to ascertain whether the trees identified within this report are covered by local planning authority administered statutory tree protection. In view of this, owners, managers or any persons wishing to undertake work to any trees should contact the local planning authority London Borough of Camden Council, to ensure no such protection measures exist.

2.3.2 Felling Licence

All trees within the United Kingdom are protected under the Forestry Acts. In general, anyone felling more than 5 cubic metres of timber in any calendar quarter requires a Felling Licence from the Forestry Commission. There are exemptions however and these are as follows:-

A Felling Licence is not required in the following instances:

- To fell trees in a garden, an orchard, a churchyard, or a designated open space (Commons Act 1899).
- To carry out surgery operations such as pruning, reduction, dead wooding or pollarding.
- To fell less than 5 cubic metres in a calendar quarter. (Please note that not more than 2 cubic metres in a calendar quarter may be sold).
- To fell trees that are 8 centimetres or less in diameter when measured 1.3 metres from the ground. Trees removed for thinning may have a diameter of up to 10 centimetres and trees managed under a coppice regime may have a diameter of up to 15 centimetres.
- To fell trees previously approved for removal under a Dedication Scheme, or where Detailed Planning Permission has been granted.

Substantial fines exist for not complying with the requirements of a Felling Licence.



3.0 Tree Survey

- 3.1 As part of this survey a total of one group of trees has been identified. This has been numbered G001.
- 3.2 A topographical survey was provided which showed the position of the trees on site. It should be noted however that topographical surveys are not always comprehensive and sometimes it is considered appropriate to record details of trees and landscape features omitted from or beyond the scope of the plan. If this circumstance occurs, the location of the individual tree or landscape feature is estimated. The position of each tree is shown on the attached drawing no. 9513-D-AIA.
- 3.3 In order to provide a systematic, consistent and transparent evaluation of the trees included within this survey, they have been assessed and categorised in accordance with the method detailed in item 4.3 of *BS* 5837:2012 "Trees in *Relation to Design, Demolition and Construction Recommendations*". For further information, please see the attached Explanatory Notes.
- 3.4 The detailed assessment of each tree and its work requirements with priorities are listed in the attached Schedule of Trees.
- 3.5 In accordance with item 4.2.4 (c) of BS 5837:2012, the items inspected and detailed within this report have been selected for inclusion due to the likely influence of any proposed development on the trees, rather than strictly adhering to the curtilage of the site. However, it must be understood that there may be trees beyond the site and not included in this survey which may exert an influence on the development. Where works for cultural, health and safety, quality of life, or development purposes have been recommended on trees outside the ownership of the site, these can only progress with the agreement of the owner, except where it involves portions of the trees overhanging the boundary.

4.0 Arboricultural Impact Assessment

4.1 The Proposal

4.1.1 The proposal is to construct a new apartment block, including hard and soft landscaping, a cycle store and children's play area as part of the wider Agar Grove re-development within the curtilage of the site.

4.2 Access

- 4.2.1 Site access to Parcel 2A is unencumbered by the Root Protection Areas (RPA) of any trees to be retained.
- 4.2.2 A portion of the site is encumbered by the Root Protection Areas (RPA) of the following retained trees G001, as shown on drawing 9513-D-AIA. Therefore, and from a purely Arboricultural perspective, it may be necessary to install a proprietary temporary load bearing ground protection to prevent compaction damage to tree roots once the existing hard surface within the RPA is removed. This must be installed immediately upon removal of the existing hard surface top layer, unless works to re-surface (see Paragraph 4.4.4 below) will be undertaken immediately afterwards and vehicles movements across the exposed sub-base can be effectively prevented by other means.



4.3 **Demolition**

4.3.1 The proposal requires the removal of existing hard surfacing within the theoretical Root Protection Areas of the following retained items – G001. It is considered likely that roots will be present below the hard surfacing, either within the subbase or below. To ensure there is no damage to the roots of these specimens, works must only be completed under Arboricultural supervision and primarily by hand (supported with appropriate lightweight machinery or Air Spade and only if agreed by the supervising Arboriculturist) within the calculated RPA.

4.4 **Construction**

- 4.4.1 The alignment of the new apartment block and cycle store nominally intrudes within the Root Protection Areas (RPA) of one group of trees to be retained G001. This has only a minor influence on the Root Protection Areas and as such it is considered appropriate to undertake linear root pruning, thus obviating the need for specialist construction techniques at these locations.
- 4.4.2 Where the alignment of new structures does not encroach within the Root Protection Areas of any trees that are to be retained, and as assessed in accordance with BS5837:2012, no specialist foundation designs, or construction techniques will be required to prevent damage to tree roots. Specialist foundations may still be required for other reasons, including mitigating the influencing distance of tree roots, and as such expert advice should always be sought from a structural engineer.
- 4.4.3 Construction of foundations or structural supports for new Children's Play Equipment encroaches within the RPA of one group of trees to be retained G001. If the foundations of the play equipment cannot be installed on top of the existing hard surfacing sub-base without cutting into the soil, it will be necessary for a Structural Engineer, in conjunction with an Arboriculturalist, to design specialised foundations (e.g., micro-piles or screw piles with a limited number of stabilising concrete footings/pads or pad supported by piles) where the footprint of the structure coincides with the RPA.
- It is proposed to construct replacement hard surfaces in the RPA of G001. The 4.4.4 new hard surfacing must utilize the existing sub-base to that which has been removed (or an increase in sub-base if necessary to support the new finished surface) to prevent adverse impact on underlying roots. The process must allow for a barrier of sharp sand and soil mix if roots are exposed during the lifting of the original surface. The finished surface should be permeable to allow water filtration to the underlying soil and roots. The new hard surface may also be constructed using a 'No Dig' confinement system if desired or if required for the robustness of the site use. In the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden's Arboricultural Consultants will supply a sample design of "no dig" surfacing. If a 'No Dig' solutions is used within the scheme, the exact specification must be designed by a Civil Engineer who can confirm that the finished levels and load bearings are achievable without cutting into the ground. To protect the RPA of the affected trees, the temporary protective fencing will be sited to the edge of the RPA of these trees (or as otherwise guided by the supervising Arboricultural Consultant) until works begin to install the 'No Dig' construction. No vehicle movements over the No Dig construction system must take place until the finished surface has been installed and secured, and the system is appropriately robust and designed for vehicle movements.



4.5 Implications of Sloping Ground

4.5.1 The arboricultural implications of the proposed assume that level changes will not occur within the RPA of trees that are shown to be retained, other than the items discussed above.

4.6 **Requirement for Tree Barrier Fencing**

4.6.1 After the completion of demolition and prior to the commencement of construction and immediately after the completion of the necessary tree surgery, protective fencing will be erected on site. This must be fit for purpose (including any ground protection if necessary) in full accordance with the requirements of BS 5837:2012 and positioned as shown on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing. Full details of fencing will be supplied by Hayden's Arboricultural Consultants in the detailed Arboricultural Method Statement & Tree Protection Plan

4.7 **Compound**

4.7.1 The site provides adequate internal space to locate a construction compound outside the RPA of any trees and landscape features that are to be retained.

4.8 Phasing

4.8.1 The proposal involves the integration of a number of complex aspects that affect tree protection (e.g. – but not exclusively – access, movement of materials and the installation of services). For this reason, the project must be carefully phased to ensure the highest level of protection for retained trees at all times. As part of the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden's Arboricultural Consultants will produce an in-depth phasing recommendation to cover the major operations on site as they affect retained trees.

4.9 Monitoring

4.9.1 In accordance with item 6.3 of BS 5837:2012, the site and associated development should be monitored regularly by a competent Arboriculturalist to ensure that the arboricultural aspects of the planning permission are complied with. As part of the detailed Arboricultural Method Statement & Tree Protection Plan, Hayden's Arboricultural Consultants will produce an extensive auditable monitoring schedule to assess the progress of key site events/activities.

4.10 Tree Surgery to Facilitate Proposed Development

4.10.1 In order to enable the proposed development it will be necessary to undertake the following tree surgery works to retained trees: -

Feature No	Description of Works Required	BS Category*
G001	Undertake root pruning along edge of new structure as shown on drawing no. 9513-D-AIA	В

4.11 Landscape Implications

4.11.1 It is not necessary to fell any trees to achieve the proposed layout.



4.12 **Post Development Implications**

- 4.12.1 No adverse arboricultural implications are considered reasonably foreseeable for the trees that remain provided that the recommendations of this report are complied with in full.
- 4.12.2 Due to the dynamic nature of trees and their interaction with the environment, their health and structural integrity is liable to change over time. Because of this it is recommended that all trees on or adjacent to the site be inspected on an annual basis.
- 4.12.3 As stated in BS 5837:2012, regular maintenance of newly planted trees is of particular importance for at least three years during the critical post-planting period and might, where required by site conditions, planning requirements or legal agreement, be necessary for five years or more. Therefore, the designer of the new landscaping should, in conjunction with the landscape design proposals, prepare a detailed maintenance schedule covering this period, and appropriate arrangements made for its implementation.

5.0 Design Advice, Preliminary Arboricultural Method Statement & Tree Protection Plan

5.1 Securing of Tree Structure and Root Protection Areas (RPA)

- 5.1.1 The trees to be retained will be protected by the use of stout barrier fencing erected in the positions indicated on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing no. 9513-D-AIA. This fencing will be in accordance with the requirements of BS 5837:2012 including any necessary ground protection.
- 5.1.2 All fencing provided for the safeguarding of trees will be erected prior to any demolition or development commencing on the site, therefore ensuring the maximum protection. This fencing, which must have all weather notices attached stating "Construction Exclusion Zone No Access" will be regarded as sacrosanct and, once erected, will not be removed or altered without the prior consent of the Local Planning Authority.
- 5.1.3 Where footpaths, access drives, or parking bays are constructed within the RPA of retained trees, careful attention will be paid to the type of surface treatment used in these areas, details of which are given in item 5.8, below. If possible, these should be installed as a final phase of the project, thereby protecting the RPA throughout the major construction phase of the proposed development.
- 5.1.4 Where fencing is impractical, consideration must be given to other forms of effective above ground tree structure protection. An example of this would be a combination of Barksavers to secure the stems and a temporary load bearing surface to shield the ground.

5.2 Location of Site Office, Compound and Parking

5.2.1 The position of the office, compound and parking will be agreed in writing with the Local Planning Authority prior to commencement of any permitted development works. Any proposed re-location of these items through the various phases of development will be agreed prior to re-siting with the Local Planning Authority.



5.3 **On Site Storage of Spoil and Building Materials**

- 5.3.1 Prior to and during all construction works on site, no spoil or construction materials will be stored within the RPA of any tree on, or adjacent to the site, even if the proposed development is to be within the RPA. This is to reduce to a minimum the compaction of the roots of the trees. Details of the RPA for each tree where no spoil or building materials will be stored are indicated on the attached Preliminary Arboricultural Impact Assessment & Tree Protection drawing no. 9513-D-AIA. Any encroachment within this protected area will only be with the prior agreement of the Local Planning Authority.
- 5.3.2 Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bund compound shall be at least equivalent to the capacity of the tank plus 10%. If there is a multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges and sight glasses shall be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipe-work shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund.
- 5.3.3 All material storage facilities and work areas must consider the effects of sloping ground on the movement of potentially harmful liquid spillages towards or into protected areas.

5.4 **Programme of Works**

5.4.1 All tree surgery works, once approved by the Local Planning Authority, will be carried out prior to any other site works. Once completed, the proposed protective fencing will be erected along the lines indicated above. All of this will be carried out prior to commencement of any development works on the site. Outline details of the proposed programme are given in the Design and Construction and Tree Care flow chart attached (Appendix F-1).

5.5 Tree Surgery

5.5.1 All tree work will be agreed with the Local Planning Authority and will be carried out in line with BS 3998:2010 (Recommendations for Tree Works). An appropriately qualified, experienced and insured arboricultural contractor will carry out the work. Any alterations to the proposed schedule of works will be agreed with the Local Planning Authority prior to commencement of works.

5.6 Levels

- 5.6.1 Other than for any specific exception which may be referred to at item 4.0, no alterations to soil levels within the RPA of retained trees are envisaged. However, if it is necessary for these to occur, appropriate measures must be taken to prevent or minimise any detrimental effects on the affected root systems as detailed in 5.6.2 and 5.6.3 below.
- 5.6.2 If it is necessary to excavate so close to trees that roots greater than 50mm diameter are likely to be encountered, particular care will be taken to avoid damage. Excavation in these areas will be undertaken by hand or using an air spade, avoiding any damage to the bark. The roots will be surrounded with sharp sand prior to the replacing of any soil or other material in the vicinity.



5.6.3 If it is necessary to raise levels, it is essential that adequate supplies of water and oxygen pass through the soil to the trees' roots. Therefore, where necessary, a granular material will be used which will not inhibit gaseous diffusion. Possible options are no-fines gravel, cobbles or, Type 2 road-stone. All hard surfaces will be of suitable specification to allow such gaseous diffusion, e.g. brick pavers.

5.7 Services

- 5.7.1 At the time of writing this report, no details on proposed services were available. However, the following principles should be adhered to when planning for their installation.
- 5.7.2 It is proposed that all underground service runs will be placed outside the RPA of the trees on or adjacent to the site. Where it is not possible to do this, the proposed length infringing the RPA will be hand dug 'broken trenches' (NJUG 4 paragraph 4) to ensure the maximum protection of the trees' roots. The trenches may also be excavated using an air spade, or trenchless technology can be employed if this methodology is considered appropriate by the relevant service company (thus allowing services to pass below and through the roots without the need for traditional excavation). If it is necessary to cut any small roots as part of any of these processes, they should be severed in such a way as to ensure that the final wound is as small as possible and free from ragged, torn ends.
- 5.7.3 All routes for overhead services will aim to avoid the trees. Where this is not possible, any tree work will be agreed prior to commencement with the Local Planning Authority.
- 5.7.4 All service providers (Statutory Authorities) will be consulted prior to commencement of works with the aim of minimising the number of service runs on the site.
- 5.7.5 All service runs/trenches where they encroach within the RPA of retained trees will be agreed with the Local Planning Authority prior to commencement of works.

5.8 Hard Surface Types & Construction within the Root Protection Area

5.8.1 Where it is necessary to construct footpaths, driveways, non-adoptable roads, and other hard surfaces within the RPA as calculated in accordance with BS 5837:2012 (item 4.6.1), it is proposed that the design will comply with the 'no-dig' principles of the Arboricultural Advisory Information Services (AAIS) Practice Note 12 "*Through the Trees to Development*" - the only difference being that instead of a geo-grid, a geo-textile base is provided, and the no-fines road stone is incorporated in and retained by a geo-web cellular confinement system. Given the individual requirements of each site, it is essential that a specialist engineer is consulted to specify the construction detail. Where it is necessary to remove any existing hard surface, or lower the ground level within the RPA, this may expose roots. This operation must be undertaken using hand tools or an air spade. Any roots found should be treated with the greatest care and surrounded by sharp sand to provide a level base. Please note that 'no-dig' surfaces are not always considered acceptable for adoption.



- 5.8.2 Where it is shown that the construction of a boundary wall or dwelling encroaches within the RPA of a retained tree, the foundations of the wall or dwelling will be designed in such a manner so as to minimise the detrimental effect of the construction on the tree's roots. In these situations, any excavations within the RPA of an affected tree will only be undertaken following exploration of the existing root system with an air spade (or by hand digging if soil conditions preclude) and the necessary root pruning undertaken to allow excavation without unnecessary pulling and tearing of the roots to be retained. This will ensure minimal damage to tree roots where pad and beam or cantilever foundations are considered appropriate. Should a piling rig be required to create piles, any access facilitation pruning or felling necessary to allow access must be undertaken before the commencement of works and only with prior consent of the Local Planning Authority.
- 5.8.3 If boundary fencing is to be erected within the RPA of retained trees, it is proposed that the fence posts will be secured by the use of "Met-Posts" or similar design in order to keep the disturbance and damage of the roots of the trees to a minimum.

5.9 **Reporting and Monitoring Procedures**

5.9.1 In accordance with item 6.3 of BS 5837:2012, the site and associated development should be monitored regularly by a competent arboriculturalist to ensure that the arboricultural aspects of the planning permission (e.g. the installation and maintenance of protective measures and the supervision of specialist working techniques) are implemented. Furthermore, regular contact between the Site Manager and the Arboriculturalist allows them to effectively deal with and advise on any tree related problems that may occur during the development process. This system should be auditable. Should any issues arise during the arboricultural monitoring of the development the Arboriculturalist will contact the Local Planning Authority and appropriate action taken only with the prior permission of Grant Associates and the Local Planning Authority.



6.0 Recommendations

- 6.1 It is recommended that the measures outlined in this report are implemented in full to provide retained trees with the highest level of protection during the process of demolition and construction.
- 6.2 Subject to achieving Planning Permission, it is recommended that a detailed Arboricultural Method Statement & Tree Protection Plan should be provided. This will include the following: fencing type, ground protection measures, "no dig" surfacing, access facilitation pruning specification, project phasing and an extensive auditable monitoring schedule.
- 6.3 Tree surgery should be completed as detailed in the Schedule of Trees. Where this has been identified for reasons other than to permit development, this work should be completed within the advised timescales irrespective of any development proposals.
- 6.4 The tree surgery works proposed as part of this Survey are recommended to mitigate any identified problems that may be caused by trees in close proximity to the proposed development. To this end, should these recommendations be overruled, this Survey stands as the opinion of Hayden's Arboricultural Consultants Limited, and therefore any damage or injury caused by trees recommended by this practice for felling or tree surgery works, to which the proposed schedule of works has been altered or the tree has been requested to be retained by the Local Planning Authority, cannot be the responsibility of this practice.



7.0 Limitations & Qualifications

Tree inspection reports are subject to the following limitations and qualifications.

General exclusions

Unless specifically mentioned, the report will only be concerned with above ground inspections. No below ground inspections will be carried out without the prior confirmation from the client that such works should be undertaken.

The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available prior to and during the inspection process. No checking of independent third-party data will be undertaken. Hayden's Arboricultural Consultants Limited will not be responsible for the recommendations within this report where essential data are not made available or are inaccurate.

This report will remain valid for one year from the date of inspection subject to the recommendations specified within being adhered to. It must also be appreciated that recommendations proposed within this report may be superseded by extreme weather, or any other unreasonably foreseeable events.

However, if any additional alterations to the property or soil levels are carried out and/or further tree works undertaken other than specified within the report, it will become invalid and a new tree inspection strongly recommended.

It will be appreciated, and deemed to be accepted by the client and their insurers, that the formulation of the recommendations for the management of trees will be guided by the following: -

- 1. The need to avoid reasonably foreseeable damage.
- 2. The arboricultural considerations tree safety, good arboricultural practice (tree work) and aesthetics.

The client and their insurers are deemed to have accepted the limitation placed on the recommendations by the sources quoted in the attached report. Where sources are limited by time constraints or the client, this may lead to an incomplete quantification of the risk.

Signed:

May 2022..... For and on Behalf of Hayden's Arboricultural Consultants Limited



8.0 References

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NHBC Standards (2007) Chapter 4.2 'Building Near Trees'. National House-Building Council.

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9.0 Appendices

Appendix	Α	Species List & Tree Problems
Appendix	В	Schedule of Trees
Appendix	С	Preliminary Schedule of Works to Allow Development
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Appendix	G	Drawing No 9513-D-AIA



Appendix A - Species List & Tree Problems

Species List:

London Plane

Platanus x hispanica

Tree Problems:

This gives a brief description of the problems identified in the attached Tree Survey.

Name: Deadwood		
Symptoms/damage type and cause:	This relates to dead branches in the crown of the tree. In the majority of cases, this is caused by the natural ageing process of the tree or shading due to its close proximity to neighbouring trees. However, in some situations, it may be related to fungal, bacterial or viral infection.	
Consequence:	Depending upon the location and mass of dead wood removal of the affected tissue may be necessary to prevent harm to persons or property as the wood will become unstable as it decays and in some circumstances is likely to fall from the tree with little or no warning.	
Control:	Detailed monitoring should be undertaken on those trees showing signs of excessive deadwood production to identify the underlying cause.	
Species affected:	Most tree species.	
Images:		



Appendix B

Schedule of Trees

SCHEDULE OF TREES (AIA)	Phase 2A - Agar Grove, Camden, London,
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Surveyed By: Alex Garnham	Date: 06/05/2022
Managed By: Alex Garnham	

No) Priority
	(AIA)
site	
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Appendix C

Schedule of Works to Allow Development

SCHEDULE OF WORKS (AIA)

Phase 2A - Agar Grove, Camden, London,

Surveyed By: Alex Garnham Surveyed: 06/05/2022 Managed By: Alex Garnham

Tree No.	Species	Work required	Priority
G001	London Plane	Existing hard surface to be carefully broken up and removed under Arboricultural Supervision, allowing for retention of existing sub-base to reduce damage to roots underlying the top surface (see Para. 4.3.1 of report 9513). Undertake root pruning alor edge of new structure as shown on drawing no. 9513-D-AIA. New/replacement hard surface within root zone to be constructed on top of the existing sub-base and/or using 'No Dig' design; whichever is used, the finished surface should be permeable (see Para 4.4.4 of report 9513). New play equipment within the root zone may be of pad foundation design if working on top of the existing sub-base, or installed via micro-piles with a limit number of stabilising concrete footings (see Para. 4.4.3 of report 9513).	0 ng a a. on ted

Appendix D

Explanatory Notes

Explanatory Notes

Categories





Below is an explanation of the categories used in the attached Tree Survey.

- No Identifies the tree on the drawing.
- **Species** Common names are given to aid understanding for the wider audience.

BS 5837Using this assessment (BS 5837:2012, Table 1), trees can be dividedMaininto one of the following simplified categories, and are differentiated by
cross-hatching and by colour on the attached drawing:

Category A - Those of high quality with an estimated remaining life expectancy of at least 40 years;

Category B - Those of moderate quality with an estimated remaining life expectancy of at least 20 years;

Category C - Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm;

Category U - Those trees in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

BS 5837 Table 1 of BS 5837:2012 also requires a sub category to be applied to the A, B, C, and U assessments. This allows for a further understanding of

Category the determining classification as follows:

Sub Category 1 - Mainly arboricultural qualities;

Sub Category 2 - Mainly landscape qualities;

Sub Category 3 - Mainly cultural values, including conservation .

Please note that a specimen or landscape feature may fulfil the requirements of more than one Sub Category.

DBH Diameter of main stem in millimetres at 1.5 metres from ground level.

(mm) Where the tree is a multi-stem, the diameter is calculated in accordance with item 4.6.1 of BS 5837:2012.

Age Recorded as one of seven categories:

Y Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH.

S/M Semi-mature. An established tree, but one which has not reached its prospective ultimate height.

E/M Early-mature. A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread.

M Mature. A mature specimen with limited potential for any significant increase in size, even if healthy.

O/M Over-mature. A senescent or moribund specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications.



D Dead.

Height Recorded in metres, measured from the base of the tree.

- **Crown Base** Recorded in metres, the distance from ground and aspect of the lowest branch material.
- **Lowest Branch** Recorded in metres, the distance from ground and aspect of the emergence point of the lowest significant branch.
- **Life Expectancy** Relates to the prospective life expectancy of the tree and is given as 4 categories:
 - 1 = 40 years+;
 - 2 = 20 years+;
 - 3 = 10 years+;
 - 4 = less than 10 years.

Crown Spread Indicates the radius of the crown from the base of the tree in each of the northern, eastern, southern and western aspects.

- **Minimum Distance** This is a distance equal to 12 times the diameter of the tree measured at 1.5 metres above ground level for single stemmed trees and 12 times the average diameter of the tree measured at 1.5 metres above ground level tree for multi stemmed specimens. (BS 5837:2012, section 4.6).
- **RPA** This is the Root Protection Area, measured in square metres and defined in BS5837:2012 as "a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority". The RPA is shown on the drawing.. Ideally this is an area around the tree that must be kept clear of construction, level changes of construction operations. Some methods of construction can be carried out within the RPA of a retained tree but only if approved by the Local Planning Authority's tree officer.
- Water DemandThis gives the water demand of the species of tree when mature, as given in
the NHBC Standards Chapter 4.2 "Building Near Trees".

Visual Amenity Concerns the planning and landscape contribution to the development site made by the tree, hedge or tree group, in terms of its amenity value and prominence on the skyline along with functional criteria such as the screening value, shelter provision and wildlife significance. The usual definitions are as follows:

- Low An inconsequential landscape feature.
- Moderate Of some note within the immediate vicinity, but not significant in the wider context.
- High Item of high visual importance.

Problems/May include general comments about growth characteristic, how it isCommentsaffected by other trees and any previous surgery work; also, specific
problems such as deadwood, pests, diseases, broken limbs, etc.

Work Required
(TS)Identifies the necessary tree work to mitigate anticipated problems and deal
with existing problems identified in the "Problems/comments" category.





Work Required (AIA)	Identifies the tree work specifically necessary to allow a proposed development to proceed.
Priority	This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey.
	1 Urgent – works required immediately;
	2 Works required within 6 months;
	3 Works required within 1 year;
	4 Re-inspect in 12 months,
	0 Remedial works as part of implementation of planning consent.



- Access Facilitation Pruning One-off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
- Arboricultural Method Statement Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
- Arboriculturist Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.
- **Competent Person** Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached. *NOTE a competent person is expected to be able to advise on the best means by which the recommendations of this British Standard may be implemented.*
- ConstructionSite-based operations with the potential to affect existing
trees.

Construction Exclusion Zone Area based on the root protection area from which access is prohibited for the duration of a project.

- **Root Protection Area (RPA)** Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
- Service Any above or below ground structure or apparatus required for utility provision.

NOTE - examples include drainage, gas supplies, ground source heat pumps, CCTV and satellite communications.

- StemPrincipal above ground structural component(s) of a tree that
supports its branches.
- StructureManufactured object, such as a building, carriageway, path,
wall, service run, and built or excavated earthwork.

Tree Protection PlanScale drawing, informed by descriptive text where necessary,
based upon the finalized proposals, showing trees for
retention and illustrating the tree and landscape protection
measures.

Veteran TreeTree that, by recognized criteria, shows features of biological,
cultural or aesthetic value that are characteristic of, but not
exclusive to, individuals surviving beyond the typical age
range for the species concerned.NOTE - these characteristics might typically include a large
girth, signs of crown retrenchment and hollowing of the stem.



Appendix E

Tree Preservation Order Response/Enquiry

Beth Jennings

From: Sent: To: Subject:	Rav Curry <rav.curry@camden.gov.uk> 10 May 2022 15:49 Beth Jennings; TreeSection; David Houghton RE: 9513 - TPO Enquiry - Phase 2A - Agar Grove, Camden, London, NW1 9TY [Filed 11 May 2022 11:14]</rav.curry@camden.gov.uk>
Importance:	High

Hi Beth

This location appears to be next to Ferndown and between Abbotsbury and Ferndown.

There are no TPOs at this location and it is not within a Conservation Area, however there are a lot of assets that may be owned by Camden Council and I have copied in Camden Tree Section to respond to you on those trees next to Ferndown and around Abbotsbury and Ashmore.

Regards

Rav Curry Planning Assistant London Borough of Camden

Telephone: 0207 974 3770



The majority of Council staff are continuing to work at home through remote, secure access to our systems. Where possible please communicate with us by telephone or email.

From: Beth Jennings <bethj@treesurveys.co.uk>
Sent: 10 May 2022 15:06
To: Planning Planning <Planning@camden.gov.uk>
Subject: 9513 - TPO Enquiry - Phase 2A - Agar Grove, Camden, London, NW1 9TY

[EXTERNAL EMAIL] Beware – This email originated outside Camden Council and may be malicious Please take extra care with any links, attachments, requests to take action or for you to verify your password etc. Please note there have been reports of emails purporting to be about Covid 19 being used as cover for scams so extra vigilance is required.

Good Afternoon,

Could you please advise if the above mentioned site is covered by TPO?

I have attached a site map for your use.

I look forward to hearing from you.

Kind Regards

Beth Jennings Administrator



Tel: 01284 765391 info@treesurveys.co.uk www.treesurveys.co.uk

Head Office: 5 Moseley's Farm Business Centre, Fornham All Saints, Bury St. Edmunds, Suffolk, IP28 6JY Southern Office: Unit 6, Enterprise House, Cherry Orchard Lane, Salisbury, Wiltshire, SP2 7LD

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Appendix F

Advisory Information & Sample Specifications



1. BS 5837:2012 Figure 1 - Flow Chart – Design and Construction & Tree Care

** See Commentary on Clause 6.

	European Protected Species and woodland operations. (V4) Complete all sections of the Checklist				
		✓			
	Checklist		Details		
1	Are you within, or close to, the known mapped range of any of the protected species OTHER THAN BATS which are potentially everywhere? Tick any that apply. See distribution maps in the Good Practice Guidance for each species -	YES NO	Name of Wood:		
	Dormice Otters Great crested newts Sand lizards Smooth snakes		Grid Reference:		
2	Does your wood contain any of the following habitats? Tick any that apply. Old trees with holes and crevices which might be used bats Species rich scrub/coppice, early growth stage plantations and forest interfaces Rivers on which otters might be found Ponds which might be occupied by great crested newts Open areas on heathy soils	YES NO	Area: (ha)		
3	Have any of the protected species been recorded in this wood or on adjoining sites? Tick any that apply. Indicate which sources of information you have checked: National Biodiversity Network (<u>www.nbn.org.uk</u>) Local Biological Records Centre Local Wildlife Trust Other Specify Other:	YES NO	Name of Assessor:		
4	Have your inspections or any expert surveys found any of the following signs or evidence? Tick any that apply. Signs (e.g. otter spraint, nuts gnawed by dormice, leaves folded by newts) Sightings (or echo-location) Potential breeding or roosting sites (e.g. veteran trees, old trees with crevices, riverside hollow trees, ponds, timber stacks, large fallen deadwood) Confirmed breeding or roosting sites (i.e. evidence of sites actually being used) Details:	YES NO			
CHECK POINT	If you have answered NO to ALL of the above then only bats need to be considered in your operations. If you have answered YES to any of the above then the species concerned must be considered as well as bats.		Notes		
5	Do the operations comply with Good Practice for bats and any other species found (or likely to be found in your wood) or can the operations be modified to do so? Details: Use reverse of form to expand as required:	YES S	A licence is not required but continue to sections 6 and 7 below /ou will need to obtain a licence BEFORE arrying out the work (see EPS Licence Application Forms and Notes)		
6	Whether or not a licence is required Has the information been communicated to operators (including the location of breeding sites and sensitive areas)? Tick any that apply. Included in documentation (e.g. contract, letter of instruction, site assessment or other management plan) Shown to operators and/or their supervisor Marked with paint or hazard tape Shown on the site plan Other means:	YES NO t	/ou may commit an offence if you do not ell your operators about the protected species in your wood.		
7	Have arrangements for supervision been made to ensure Good Practice guidance is complied with during the operations? Details:	YES NO	You may commit an offence if you do not ake steps to ensure that your operators comply with the Good Practice guidance.		

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3. BS 5837:2012 Figure 2: Default specification for protective barrier



Key

- 1 Standard scaffold pole
- 2 Heavy gauge 2m tall galvanised tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6m
- 6 Standard scaffold clamps

4. BS 5837:2012 Figure 3: Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix G

Haydens Drawing

- Arboricultural Impact Assessments
 - Arboricultural Method Statements
 - Tree Constraints Plans
 - Arboricultural Feasibility Studies
 - Shade Analysis •
 - Picus Tomography
- Arboricultural Consultancy for Local Planning Authority
 - Quantified Tree Risk Assessment •
 - Health & Safety Audits for Tree Stocks
 - Tree Stock Survey and Management
 - Mortgage and Insurance Reports
 - Subsidence Reports •
 - Woodland Management Plans
 - Project Management
 - Ecological Surveys •

