Greengage

Haverstock Place, OD Camden Hotel Ltd
BS5837 Tree Survey & Arboricultural Impact Assessment, October 2020

QA

Haverstock Place. BS5837 Tree Survey & Arboricultural Impact Assessment

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CONTENTS

1.0 INTRODUCTION AND SUMMARY

1.1 Greengage Environmental Ltd ('Greengage') was commissioned by OD Camden Hotel Ltd to undertake an appraisal of trees at the site known as 5-17 Haverstock Place in the administrative area of LB Camden, in accordance with the *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations*[1].

1.2 A visit was made to the site on the 19th August 2020. The crowns and stems were inspected from the ground using the 'Visual Tree Assessment' (VTA) method; no invasive techniques were used at this stage.

1.3 This document is a report of this survey and has been produced to support a planning application for a mixed residential/commercial development of the site.

1.4 The survey focused on the trees directly on and adjacent to the site that could be affected by the proposed development. This report also indicates any trees to be removed on the grounds of sound arboricultural management and those that may be required to be removed to allow for site development.

1.5 The Arboricultural Impact Assessment (AIA) was then drawn up based on the identified constraints of the existing on and off-site trees on the proposed development and its construction. It details any works to either the trees or the design proposals required to mitigate these constraints.

1.6 The subsequent Tree Constraints Plans (Appendix 2.0), show the constraints to the development from those trees to be retained and presents the locations, crown spreads, root protection areas (RPAs) and BS5837 Categories of all surveyed trees.

1.7 The Tree Schedule (Appendix 1.0) contains details of all the surveyed trees falling within the scope of this report.

1.8 The survey showed there to be a total of 15 trees, within or adjacent to the proposed development area, including a mix of Category B and C trees.

1.9 With the overall site layout designed to avoid tree loss no trees have been lost as a result of the development proposals although some facilitation pruning of overhanging trees to the west of the site (beyond the site boundary) are recommended.

2.0 METHODOLOGY

Site Visit

2.1 The survey site visit was undertaken on 19th August 2020, with deciduous trees in full leaf. A summary table of all the trees included in the Tree Schedule (detailing further information on each tree) is shown at Appendix 1.0.

2.2 The crowns and stems were inspected from the ground using the 'Visual Tree Assessment' (VTA) method; no invasive techniques were used at this stage.

2.3 Full details on the tree survey methodology is given at Appendix 3.0.

3.0 BACKGROUND

The Site

3.1 The application site covers an area of 0.207 hectares (ha) and is centred on National Grid Reference TQ280844, OS Co-ordinates 528077, 184426.

3.2 The site is located in Camden, North London and comprises a former carpark/ storage with ancillary offices. It is bound to the north by Haverstock Hill, to the northeast by a line of trees and a block of 6-storey residential apartments and to the south by Adelaide Road.

Description of development

3.3 The proposed development is for the Demolition of existing building and erection of a part-six, part-seven storey development comprising residential (Use Class C3), Hotel (Use Class C1) and associated commercial, business and service (Class E) use with associated works.

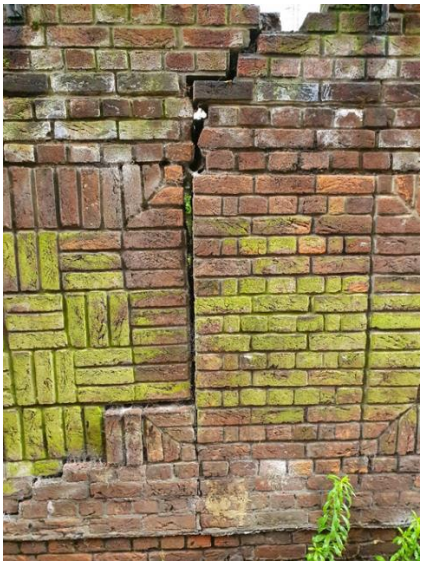
4.0 THE TREES

4.1 In line with the BS5837 guidelines, 15 trees, were identified either within or directly adjacent to the proposed development area. The following section should be read as a summary description of the onsite trees with full details given in the Arboricultural Data Tables (Appendix 1.0), together with their respective BS category ratings.

4.2 Surveyed trees within and directly adjacent to the site boundary include a mix of species, life stages and condition with BS5837 assessments including both Category B and C.

4.3 As shown on the Tree Constraints Plan at Appendix 2.0, the majority of trees included in the survey are located just beyond the western perimeter retaining wall and single story garage building, which are both now forming large cracks presumably as a result of tree root growth pressure from the surveyed trees in these locations. The largest area of damage was shown to be adjacent to T8, (Figures 4.1 and 4.2) which is very close to both structures.

Figures 4.1 Damage to the retaining wall



Figures 4.2 Damage to the garage structure

4.4 Based on previous trial dig excavations, the foundation depth of the retaining wall is considered to be around 800 mm, and whilst roots were shown to penetrate the site at this depth, the present of the wall, garage building and the existing hard standing access road in this location will have significantly impeded root spread onto the site.

4.5 Whilst access to the west of the retaining wall was not possible during the survey (due to third party land ownership behind locked gates and fencing), there was shown to be a level difference between the two sides, with the site side being significantly lower. This then going some way to explain why the wall and garage on the site side have been damaged. Although it should be noted that there may be additional reasons for this damage that are not considered within the remit of this report.

4.6 Other than potential onsite root spread and associated structural damage (as described above), the other significant constraint to the development of the site is from the notable overhang from a number of the trees in this location (Figure 4.3).

Figure 4.3 Off site tree overhang

4.7 Whilst clear of the existing building, the trees are shown to be overhanging the site by several meters and in some locations the crowns are as low as two meters from the site ground level (Figure 4.4). Many of these trees though show a history of crown pruning and hight reduction work, so lend themselves well to future pruning that would provide much improved site clearance in line with arboricultural best practice as set out within *BS3998: Tree Work Recommendations.*

4.8 The final trees included within the survey are two newly planted hornbeams within the pavement area of Haverstock Hill and an early mature false acacia which is already showing heavy phototropic growth away from the existing building, meaning any pruning work here to allow for scaffolding and construction space would be minimal.

Figure 4.4 Onsite low overhang from off-site trees

Limitations to the survey

4.9 As it was not possible to view the trees from the west of the retaining wall, it is not possible to comment on any damage or decay that may be present to any of the surveyed trees. It is therefore advisable to negotiate access to the site for such an inspection, as significant decay or damage to the base or lower stem areas of these trees could present a hazard to the development of the site.

Arboricultural Report JA Consulting July 2016

4.10 The previous arboricultural report undertaken for this site was by JA Consulting in July 2016. It is assumed given the level of detail noted for T8 (T33 in the JA Consulting report), that access to the west of the retaining wall was granted at that time. Specifically, with reference to T8 (T33), the JA Consulting report stated the following

> *"T33 has been highlighted as having stem and scaffold decay; it has been graded as U (or at best a low C grade tree) and highlighted for removal. However this tree is an offsite tree (Eton Place) and its removal is not a prerequisite of the proposal. It has also been recently heavily reduced and thereby decreasing the impact of the decay by reducing the wind sails of the canopy"*

4.11 In terms of the recent Greengage survey, this tree (from the site side) was shown to be in good health, so it is not clear as to whether the tree is recovering from the previously stated decay or not. Visually (from the site side) the tree presents as a Category B tree, however given the previous observations of the JA Consulting 2016 report, has been marked down as Category C. This does not though detract from the possibility that the

tree many well still be in very poor and deteriorating condition, hence the need for a closer inspection via access to the western side of the retaining wall.

Tree Legal Protection

Policy and Legislation

4.12 There exist a series of detailed national, regional, and local policies relating to trees and tree protection including national legislation. As part of this AIA, a review of these policies and legislation was undertaken and assessed against the proposed development.

4.13 The overall findings of the assessment show the development to be strongly in line with all policies, in that all surveyed trees are to be retained. Full details of all relevant legislation and policies are given in Appendix 5.0.

Tree Preservation Orders (TPO's) and Conservation Areas

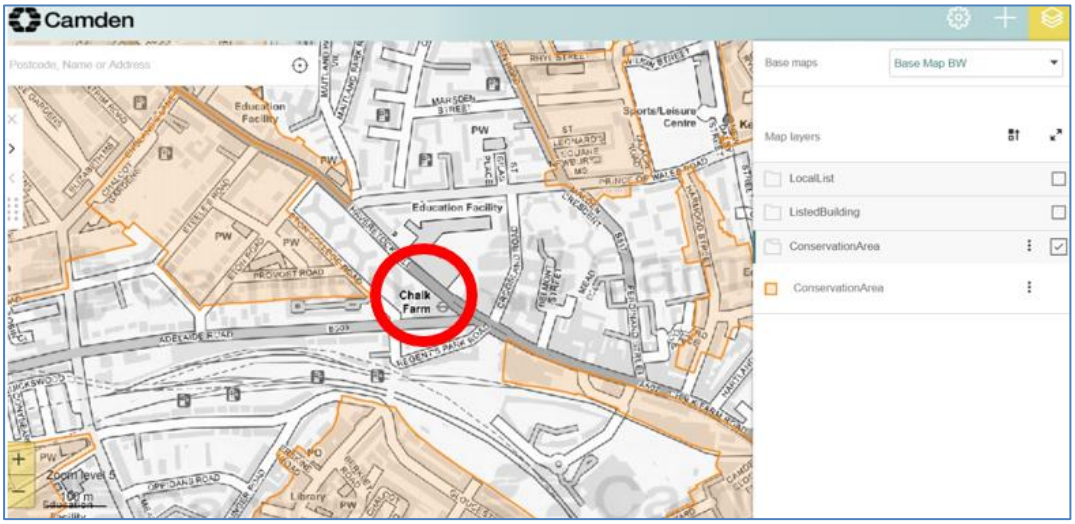
4.14 Trees within LB Camden can be protected by Tree Preservation Orders (TPOs) or by virtue of being in a Conservation Area, with the council generally requiring the retention of trees that contribute to the area's character and appearance.

4.15 Through email consultation with LB Camden (Appendix 6.0), it was identified that whilst the proposed development location does not fall within a Conservation Area (Figure 4.5), one of the surveyed trees (T8) is designated with a TPO, (Reference C567 2006).

4.16 Prior to planning permission being granted, any works T8 would then be subject to a formal application to the council.

Figure 4.5 Conservation Areas (5-17 Haverstock Hill)

(development site indicated by red circle)



https://www.camden.gov.uk/conservation-areas

5.0 ARBORICULTURAL IMPACT ASSESSMENT

5.1 The Arboricultural Impact Assessment (AIA) is drawn up based on the identified constraints of the existing on and off-site trees, on both the proposed development and its construction. This takes into account both the above and below ground constraints of these trees both in their current form and from their future growth. Expanding on this it details any works to either the trees or the design proposals required to mitigate these constraints or undesired impacts of trees on buildings and/or buildings on trees.

Proposed Tree Removals

5.2 No trees are required to be removed to facilitate the proposed construction.

Development Facilitation Pruning

5.3 As shown on the tree constraints plan there are a number of trees that show significant overhang of the development site and as such may require some crown pruning to create sufficient construction and development space.

5.4 At the time of writing this report the overhang (as shown in Figure 4.3) shows sufficient construction and scaffold space, therefore the need for pruning is likely to be avoided. It should though be noted that depending on when any site development takes place further growth of these crowns may well necessitate minor crown pruning.

5.5 The low overhang as shown in Figure 4.4 will though require a moderate crown rise to allow for general construction space and to avoid damage to the tree crowns.

5.6 The specific extent of all pruning works should be detailed within a subsequent Arboricultural Method Statement, that will likely be secured through planning condition.

5.7 It is essential that arboricultural best practice as set out in *BS:3998 Tree work – Recommendations,* is adhered to for any required tree work.

Development Within Root Protection Areas

5.8 The provisional root protection areas for all site trees have been calculated via the methodology set out in BS5837 and are shown in the Tree Constraints Plan (Appendix 2.0).

5.9 In terms of providing constraints information for any future development, providing accurate root zone information is of great significance, as this defines the area that cannot be generally constructed over or disturbed without bespoke foundation and site design considerations.

5.10 With the development plans showing the proposed building to be essentially within the footprint of the existing building (including the new foundations), development within

RPA's has been avoided as any root spread from the surveyed trees onto the site is not anticipated to have grown beneath the existing building foundations.

Works to the retaining wall structure

5.11 As noted within Section 4, the existing perimeter retaining wall to the west of the site shows cracking due to movement that has largely resulted from tree growth in these isolated locations. Whilst plans are still to be drawn up on the future proposals for the wall in line with ownership and liabilities, the constraints on any such works with respect to the existing trees is largely understood.

5.12 Specifically, the design team for the development understand that any future works or reconstruction of this wall would need to factor in the current root structures as well as that anticipated from future growth. With this in mind it is considered that any future build and design work for the wall would need to construct around significant existing roots via piling and/or bridging (for example) to both eliminant the current constraints as well as to allow space within the structure for future root growth.

Hard landscaping works

5.13 The existing hardstanding access road to the west of the building will be retained, although will be subject to the breakup and relaying of the top surface. This will not then modify the current ground conditions within the RPA on this side, so will not significantly impact the tree or the rooting volume.

Root pruning

5.14 Whilst there are a number of areas that show overlaps within the RPA's of retained trees, where possible these will be resolved through selective root pruning, in line with BS5837. This then allowing for anything smaller than 25 mm diameter to be pruned back by making a clean cut with a suitable sharp tool (secateurs or pruning saw), except where they occur in clumps. All such works should be done under arboricultural supervision. Where this is not possible the mitigated foundation design will instead be constructed.

Installation of subterranean utilities

5.15 Given the destructive impacts that trench excavation can have on tree roots and the subsequent physiological and structural life of trees, all subterranean utility lines and on-site drainage will be located as close to the existing and propose building line as possible to avoid impacting any significant roots. It is however possible that smaller roots maybe unearthed in this location that may require selective root pruning, in line with BS5837.

5.16 This approach then allowing for anything smaller than 25 mm diameter to be pruned back by making a clean cut with a suitable sharp tool (secateurs or pruning saw), except where they occur in clumps. All such works should be done under arboricultural supervision.

Accidental damage to tree crowns

5.17 Careful consideration must be given when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained tree crowns that overhang the site boundary. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banks person to ensure that adequate clearance from trees is maintained at all times.

Additional tree protection measures

5.18 Given the locations of the trees are behind the retaining wall and off site, the need for any tree protection fencing has not been identified. Furthermore, as the calculated onsite RPA's of all surveyed trees are to remain beneath the existing hard surface area (albeit with a reconstructed top layer), the need for additional tree root ground protection has been avoided.

5.19 However, for completeness, construction site good practice and guidance for how site works should be carried out near trees to avoid accidental damage is set out in Appendix 4.

5.20 Subsequent to this it is anticipated that the Local Authority will secure by planning condition a formal Arboricultural Method Statement (AMS) that will be drawn up in unison with the Construction Management Plan, to ensure all tree related construction constraints are fully understood.

6.0 CONCLUSIONS

6.1 All trees under assessment have been considered both individually, with a total of 15 trees adjacent to the proposed development area.

6.2 The quality of the surveyed trees varies with a mix of Category B and Category C trees.

6.3 Leading on from the tree survey, the Arboricultural Impact Assessment for the proposed development was drawn up based on the detailed design for the site.

6.4 As a result of the identified constraints between the proposed development design and the existing site trees, no trees are shown as removed.

6.5 All works required to be undertaken in and around existing trees to be retained have been described, with both facilitation pruning and the potential impacts on the root system discussed. It is anticipated that these tree works and constraints will be further considered within a detailed Arboricultural Method Statement and Tree Protection Plan, likely secured by planning condition.

Limitations

6.6 This report includes information on only the trees that were inspected and the condition they were observed in at the time of survey. The condition of trees can change, and as such any findings from this report should be held valid to inform for purposes of development for no longer than 12 months from the survey date.

6.7 No guarantee can be given for the structural integrity of any trees on the Site as a full hazard assessment has not been made. Inaccessible trees will have best estimates made about location, physical dimensions and characteristics.

– END –

APPENDIX 1.0: ARBORICULTURAL DATA TABLES

a

Tree No	Species	Height (m)	Stem Diameter (mm)	Crown Spread				Crown Clearance	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
				N	E	S	W			P	S			
T1	Sycamore	13	300	4	3	3	5	3	M	F	F	Asymmetrical crown close to footpath and wall. Shared canopy with adjacent trees.	>20	B
T2	Lawson cypress	14	350	3	3	3	3	9	EM	F	F	Tall and smothered with top crown only.	>10	C
T3	Holly oak	8	210	2	6	6	6	2	EM	G	F	Low overhanging tree with good screening value, close to wall.	>10	C
T4	Holly oak	8	220	3	6	2	6	2	EM	G	F	Low overhanging tree with good screening value, close to wall.	>10	C
T5	Sycamore	18	420	2	7	7	5	4	M	F	F	Historically reduced tree close to boundary wall.	>20	B
T6	Sycamore	18	400	8	6	4	4	5	M	F	F	Historically heavily reduced tree close to boundary wall.	>20	B
T7	Sycamore	15	460	5	4	4	4	5	M	F	F	Historically heavily reduced tree close to boundary wall.	>20	B
T8	Sycamore	14	660	4	5	5	5	5	M	F	P	Historically heavily reduced tree close to boundary wall. Now resulting in cracks and movement within retaining wall and brick garage structure. Tight basal union decay in stem from ground level to 1.5m	>10	C
T9	Pear	8	300	4	3	3	4	5	M	F	P	Slightly smothered canopy from T8. Cavity in central stem at 3 and 5 meters.	>10	C
T10	Cherry	6	100	4	4	4	4	3	SM	G	F	Recently established trees with good crown structure developing.	>10	C
T11	Cherry	7	100	4	2	4	4	3	SM	G	F	Recently established trees with good crown structure developing.	>10	C

Note: Blue text relates to observations from the 2016 JA Consulting report.
(With the 2016 survey having has access to the east side of the retaining wall).

G: Good
F: Fair
P: Poor
SM: Semi mature
EM: Early mature

b

Tree No	Species	Height (m)	Stem Diameter (mm)	Crown Spread				Crown Clearance	Age Class	Condition		General Notes	Estimated years remaining	Grade Category
				N	E	S	W			P	S			
T12	Lime	18	450	5	5	6	4	3	M	F	F	Specimen is good example of species and crown structure. Close to wall and adjacent gate pillar.	>20	B
T13	Hornbeam	3	70	2	1	2	2	1	Y	G	F	Recently planted street tree.	>10	C
T14	Hornbeam	3	50	0.5	0.5	0.5	0.5	2	Y	G	F	Recently planted street tree.	>10	C
T15	False acacia	9	280	5	5	2	2.5	4	EM	G	F	Structurally sound but shows significant asymmetrical stem and crown development away for the existing building facade.	>20	B

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(With the 2016 survey having has access to the east side of the retaining wall).

G: Good
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APPENDIX 2.0: TREE CONSTRAINTS PLANS

Tree Constraints Plan showing existing layout against BS5837:2012 tree categories & Root Protection Areas

BS5837 Categories

Canopy and stem colour denotes BS5837 category. Pink denotes Root Protection Area.

- -Category A (Green)
- -Category B (Blue)
- -Category C (Green)
- -Category U (Dark Red)

Category A

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

Category B

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

Category C

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

Category U

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

Main site buildings (existing).

RPA Incursion

Where building foundation lines or subterranean barriers to root spread are known, the RPA can be modified to take account of these incursion.

Only modified RPA's that relate to the main building structure are shown as the depths of the adjacent retaining walls and existing other buildings are unknown. The extent of root spread onto the site in these locations would need to be determined through exploratory digs as described within the main report.

No.	Revision/Issue	Date
1	551531rSept20_TCPex_DV1.dwg	03/09/20

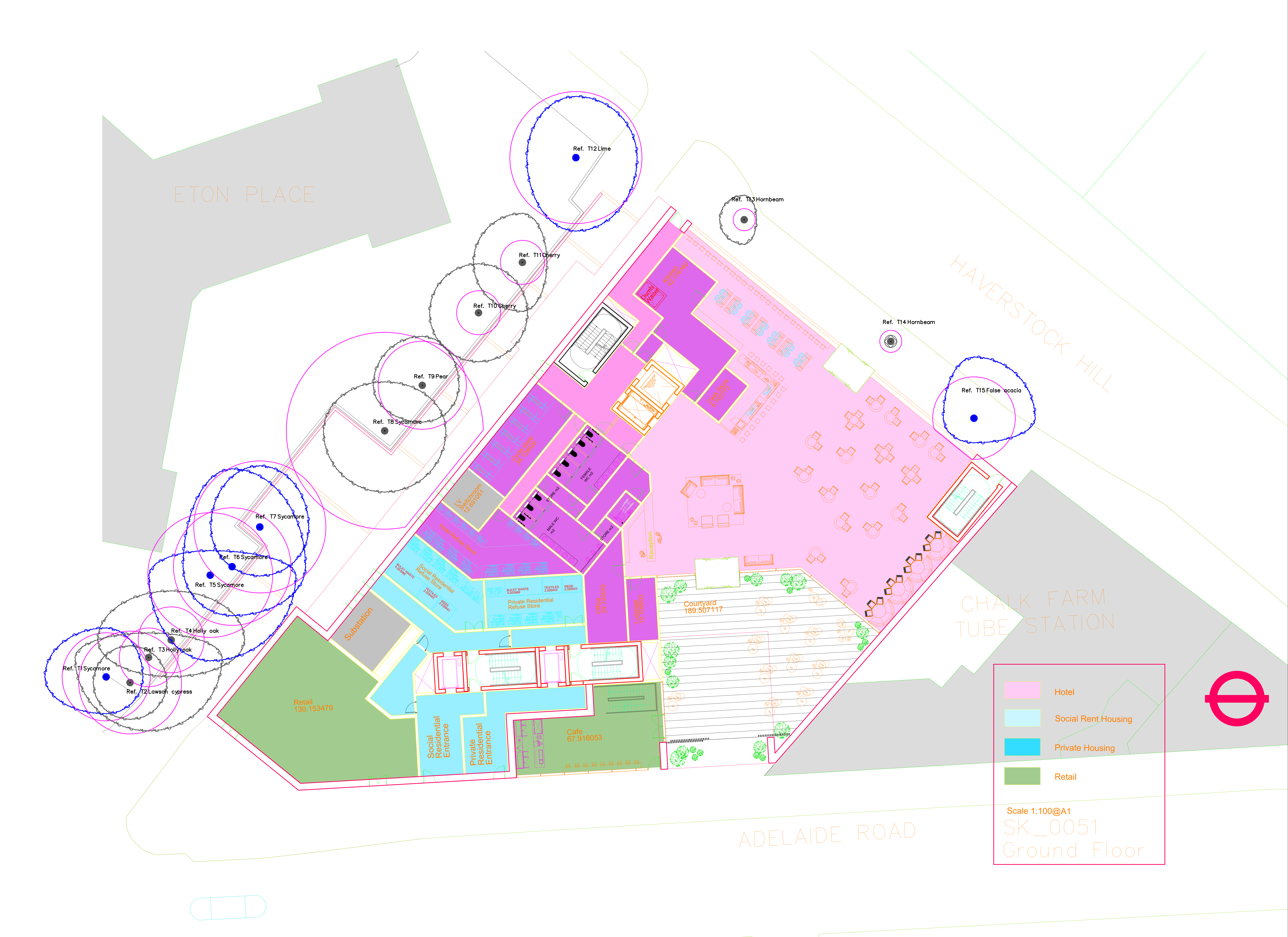
Greengage

9 Holyrood Street
SE1 2EL
Tel: 0203 544 4000

Project Name and Address

5-17 Haverstock Hill
LB Camden

Project Haverstock Hill	**Sheet** 1 of 1
Date 03/09/2020	
Scale 1:200 at A2	



Tree Constraints Plan showing proposed layout against BS5837:2012 tree categories & Root Protection Areas

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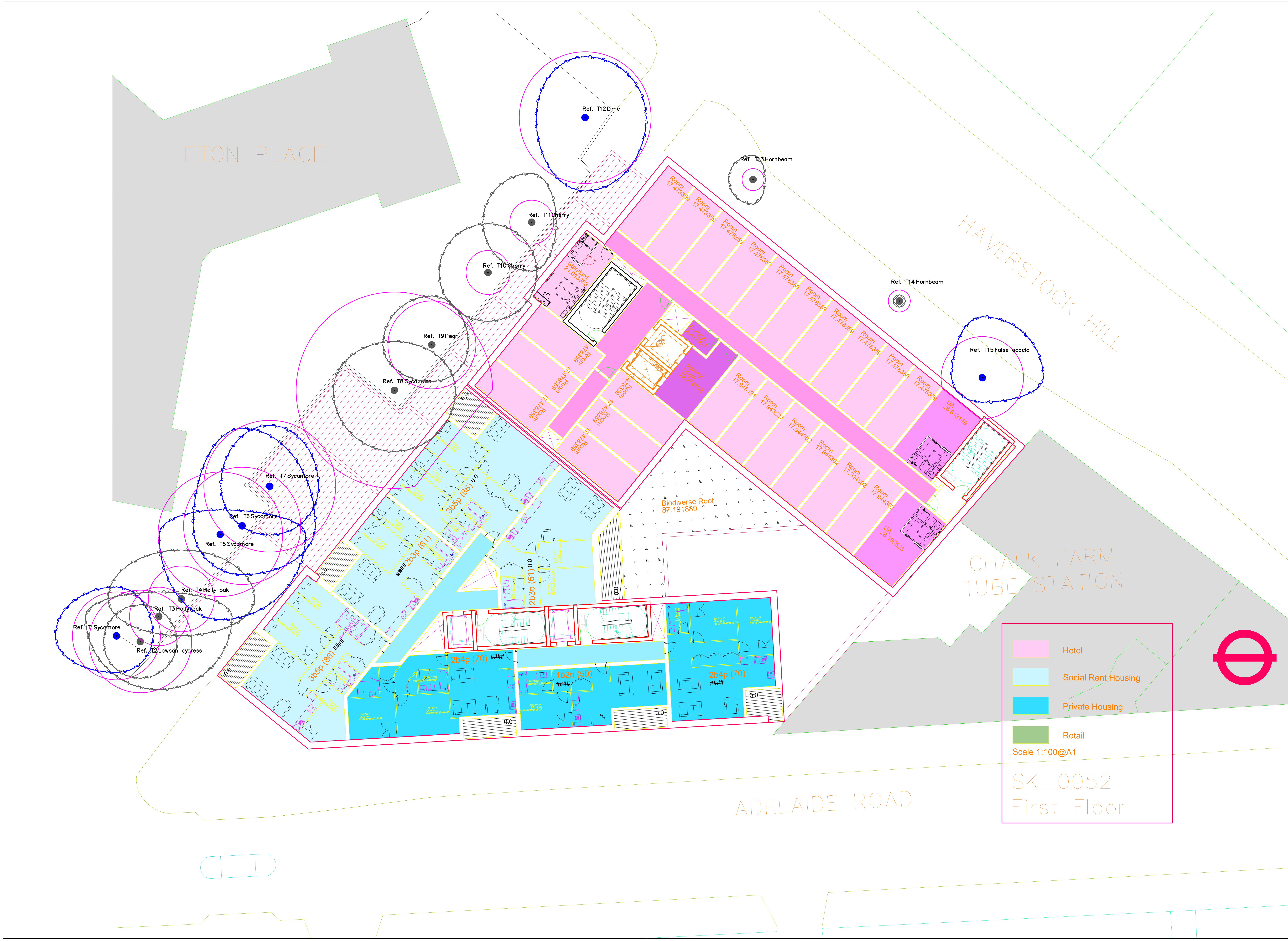

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Project Haverstock Hill

Sheet 1 of 1

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Scale 1:200 at A2

APPENDIX 3.0: 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 retained 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 Tables in Appendix 2. 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 Arboricultural Data Tables.

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

1. the health, vigour and condition of each tree;

2. the presence of any structural defects in each tree and its life expectancy;
3. the size and form of each tree and its suitability within the context of the proposed scheme; and
4. 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.

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

The overall condition of the tree, or group of trees, has been referred to as one of the following. A more detailed description of condition has been noted in the Tree Schedule and discussed in the Tree Assessment Report.

- Good: A sound tree, trees, needing little, if any, attention;
- Fair: A tree, trees, with minor but rectifiable defects or in the early stages of stress, from which it may recover;
- Poor: A tree, trees, with major structural and physiological defects or stressed such that it would be expensive and inappropriate to retain; and
- Dead: A tree, trees, no longer alive. However, this could also apply to those trees that are dying and will be unlikely to recover, or are / have become dangerous.

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:

- 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;
- Soil cracks and any heaving of the soil around the base indicating possible root plate movement;
- Any abrupt bends in branches and limbs resulting from past pruning, as it may be an indication of internal weakness and decay;
- Tight or weak 'V' shaped unions and co-dominant stems;

- 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);
- Cavities as a result of limb losses or previous pruning;
- Broken branches;
- Storm damage;
- Canker formations;
- Loose bark;
- Damage to roots;
- Basal, stem or branch / limb cavities;
- Crown die-back;
- Abnormal foliage size and colour;
- Any changes to the timing of normal leaf flush and leaf fall patterns; and
- Other pathological diseases affecting any part of the tree.
- Major defects or diseases and relevant observations have also been recorded. Dead wood has been defined as the following:
- Twigs and small branch material up to 5cm in diameter;
- Minor dead wood 5cm to 10cm in diameter; and
- 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 Arboricultural Data Tables have been shown on the Tree Constraints Plan, in Appendix 3. 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 RPAs required for many of the individual specimens within the group. An 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.

APPENDIX 4.0: TREE PROTECTION MEASURES

Prior to any demolition/construction works (including vehicular movements) taking place, all relevant tree protective measures will be in place around all retained trees within the construction vicinity of the site. It shall be set out as per the detail on the Tree Protection Plan.

These protective measures ensure suitable protection of trees and associated soils, with the key method of tree protection being through the use of fencing and ground protection.

Tree protection fencing shall be set out as per the detail on the Tree Protection Plan and identified as such using appropriate signage.

TREE PROTECTION FENCING (BS5837)

The tree protection fencing will comprise 1.8m Heras fencing around retained trees. Once erected, this will not be moved or relocated without approval from the project ACoW (Arboricultural Clerk of Works) or the council tree officer.

The tree protection area behind the Heras fencing (the Construction Exclusion Zone) will be sacrosanct throughout development and no access will be allowed to this area including (for example) the storage of or moving of materials or machinery.

In the Construction Exclusion Zone, there will be no excavations or increases in soil level without prior approval from the ACoW.

The Heras fencing will be secured using footings to prevent movement of the protective fencing and ensure its rigid installation. Details of this are given on the Tree Protection Plan.

There will be clear and visible signage attached to the protective fencing with the wording, "*Tree Protection Area – Keep Out*". This area will be checked prior to the commencement of work by the ACoW or council tree officer and throughout the course of development.

The tree protection fencing denotes the Construction Exclusion Zone. Therefore, careful consideration must be given when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banks person to ensure that adequate clearance from trees is maintained at all times.

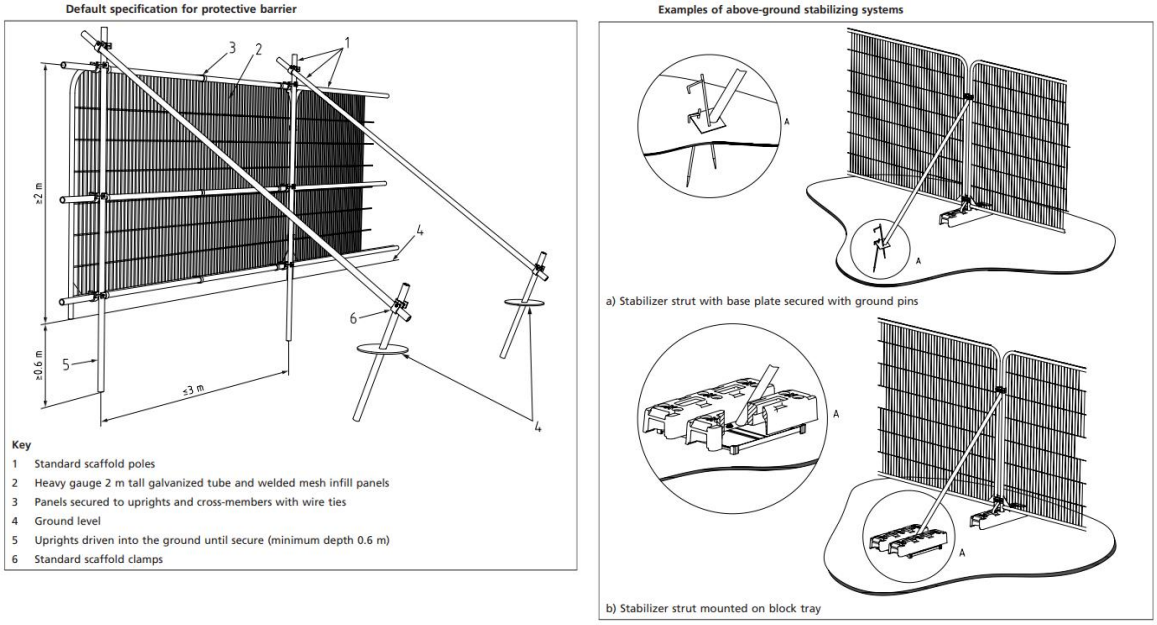
Material that will contaminate the soil such as concrete mixing, diesel oil and vehicle washing should not be discharged within 10 m of the tree stems. Furthermore, no fire shall be lit or liquids disposed of within 10 m of an area designated as being fenced off or otherwise protected in the scheme.

At the end of the project the Heras fencing will be removed only after confirmation by the ACoW or council tree officer.

A copy of the Tree Protection Plan(s) will be located within the site cabins throughout the course of development works. This will include details of the fencing specification and location for which the fence will be erected. This plan will be printed at no less than A1 in size to ensure easy reading of all the detail contained within.

Wherever possible and practical Tree Protection Fencing will be fixed around the calculated RPA for all on site trees to be retained. Where this is not possible, suitably designed ground protection must be installed either as a temporary measure or as part of the proposed construction within the RPA, (as required by the design).

Figure A4.1. Default specification for protective fencing and examples of above ground stabilizing systems.



TREE PROTECTION SIGNAGE (EXAMPLES)

To accompany the tree protection fencing, clear and visible signage must be attached to advise of the need for the fencing to remain sacrosanct and intact throughout the course of the development, subject to advice from the ACoW or council tree officer.

ROOT PROTECTION AREA GROUND PROTECTION

For new hard surfaces (such as roads and paving) required as part of the development or for wheeled or tracked construction traffic within the RPA's of trees to be retained, suitable ground protection should be designed by the project engineer and arboriculturalist to accommodate the likely loading.

This would likely require the use of proprietary systems such as the "no-dig" three-dimensional cellular confinement, specifically designed for tree root protection. This follows the guidance in BS5837 Section 6.2.3.3. (Example details as presented here).

All areas requiring such protection should be shown on the Tree Protection Plan.

The stated ground protection within all retained trees will not require any excavation or alteration in ground levels other than through the installation of the specified ground protection and road surface, which should remain porous and non-compacting by design.

APPENDIX 5.0: LEGISLATION AND POLICY CONTEXT

Legislation

The Town and Country Planning (Tree Preservation) (England) Regulations (2012)

A Tree Preservation Order is an order made by a local planning authority in England to protect specific trees, groups of trees or woodlands in the interests of amenity. An Order prohibits, without the local planning authority's written consent, the following works to trees:

- Cutting down
- Topping
- Lopping
- Uprooting
- Wilful damage
- Wilful destruction

Similarly, trees in a Conservation Area that are not protected by an Order are protected by the provisions in section 211 of the Town and Country Planning Act 1990. These provisions require issue of a section 211 notice six weeks before carrying certain work on such trees. This notice period gives the authority an opportunity to consider whether to make an Order on the tree.

Planning Policy (National)

National Planning Policy Framework (2018)

The National Planning Policy Framework (NPPF) 2018 sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development.

Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should recognise 'the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland or veteran trees are lost.

Planning Policy Local (London Borough Camden)

Policy A3 Biodiversity

Trees and vegetation

The Council will protect, and seek to secure additional, trees and vegetation.

j. resist the loss of trees and vegetation of significant amenity, historic, cultural or ecological value including proposals which may threaten the continued wellbeing of such trees and vegetation;

k. require trees and vegetation which are to be retained to be satisfactorily protected during the demolition and construction phase of development in line with BS5837:2012 'Trees in relation to Design, Demolition and Construction' and positively integrated as part of the site layout;

l. expect replacement trees or vegetation to be provided where the loss of significant trees or vegetation or harm to the wellbeing of these trees and vegetation has been justified in the context of the proposed development;

m. expect developments to incorporate additional trees and vegetation wherever possible.

APPENDIX 6.0: LONDON BOROUGH CAMDEN TPO CORRESPONDENCE

From: Curry, Rav <Rav.Curry@camden.gov.uk>
Sent: 03 September 2020 15:53
To: James Rawlinson <james.rawlinson@greengage-env.com>
Subject: RE: Request for TPO and Conservation Area locations

Hi James

There is no Conservation Area covering your map but there is one TPO to be aware of:

Reference C567 2006 on 1 x Sycamore at Eton Place, Eton College Road NW3 2BT confirmed 13/06/08.

It stands just to the right of the word Zipcar on your map.

I hope this helps and there is a Conservation Area close and more TPOs on the other side of Eton Place along Eton College Road further away from your map area.

Regards

Rav Curry
Planning Assistant

London Borough of Camden

Telephone: 0207 974 3770

From: James Rawlinson <james.rawlinson@greengage-env.com>
Sent: 03 September 2020 15:22
To: Planning <Planning@camden.gov.uk>
Subject: Request for TPO and Conservation Area locations

Dear Planning

We are currently working on the planning application for the redevelopment of 5-17 Haverstock Hill and need to understand the protected status of trees within the development area. Can you therefore please clarify whether the trees located within the area identified on the attached plan (red line) and are covered by either TPO's or a Conservation Area?

Please let us know if you require any further details.

Regards

JAMES RAWLINSON

CONSULTANT

0203 544 5827 M: 07533 793 587

W: www.greengage-env.com