

**Arboricultural Impact Assessment
Arboricultural Method Statement
Tree Constraints Plan,
&
Tree Protection Plan**

(Ref: P1323J303- Final v1.0 February 2018)

With regard to the proposed development at:

140 Highgate Road

For

Design Ventures Highgate Ltd.



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1 INTRODUCTION

1.1 BS5839:2012

The current British Standard for trees in relation to design, demolition, and construction is BS5837:2012. This became current in May 2012, and supersedes the old 2005 standard.

1.2 Terms and Definitions

1.2.1 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.

1.2.2 Arboricultural Method Statement (AMS)

Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in the loss of, or damage to a tree to be retained.

1.2.3 Arboriculturist

Person who has through relevant education training and experience, gained expertise in the field of trees in relation to design, demolition, and construction.

1.2.4 Competent Person

Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task which is being approached.

1.2.5 Construction

Site-based operations with the potential to affect existing trees.

1.2.6 Construction Exclusion Zone (CEZ)

Area based on the root protection area (2.7) from which access is prohibited for the duration of the project.

1.2.7 Root Protection Area (RPA)

Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain a tree's viability, and where the protection of roots and soil structure is treated as a priority.

1.2.8 Services

Any above or below-ground structure or apparatus required for utility provision.

1.2.9 Stem

Principal above-ground structural component(s) of a tree that supports its branches.

1.2.10 Structure

Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.

1.2.11 Tree Protection Plan

Scale drawing, informed by descriptive text where necessary, based on the finalised proposals, showing trees for retention, and illustrating the tree and landscape protection measures.

1.2.12 Veteran Tree

Tree that, by recognised 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.

1.3 The Proposal/Relevant History

The proposal, in this instance, is to demolish the existing garage that is at the rear of the site, and to construct six two story town houses each with a basement level. The forecourt will be back filled to present a grass verge to the Highgate Road.

1.4 Brief and Purpose

This report has been commissioned by Design Ventures Highgate Ltd. to;

- Survey the trees on site in accordance with BS5837:2012.
- Detail the arboricultural implications of the proposed project.
- Present an effective tree protection strategy for the duration of the development.
- Provide the necessary arboricultural information to accompany a planning application to Camden Council.

1.5 Scope

The trees have been surveyed in accordance with the BS. Trees on and immediately adjacent to the site with a stem diameter over 75mm have been included.

A full hazard assessment of the trees (including the assessment of decay or defects and their implications), has not been undertaken as this is considered beyond the scope of this report. Any obvious hazards and defects have, however, been identified in the Tree Survey Schedule and appropriate works recommended for action.

1.6 Documents Supplied/Used

Document	Supplied by	Format/Reference
0067_140 Highgate Road Planning	The D*Haus Company	DWG

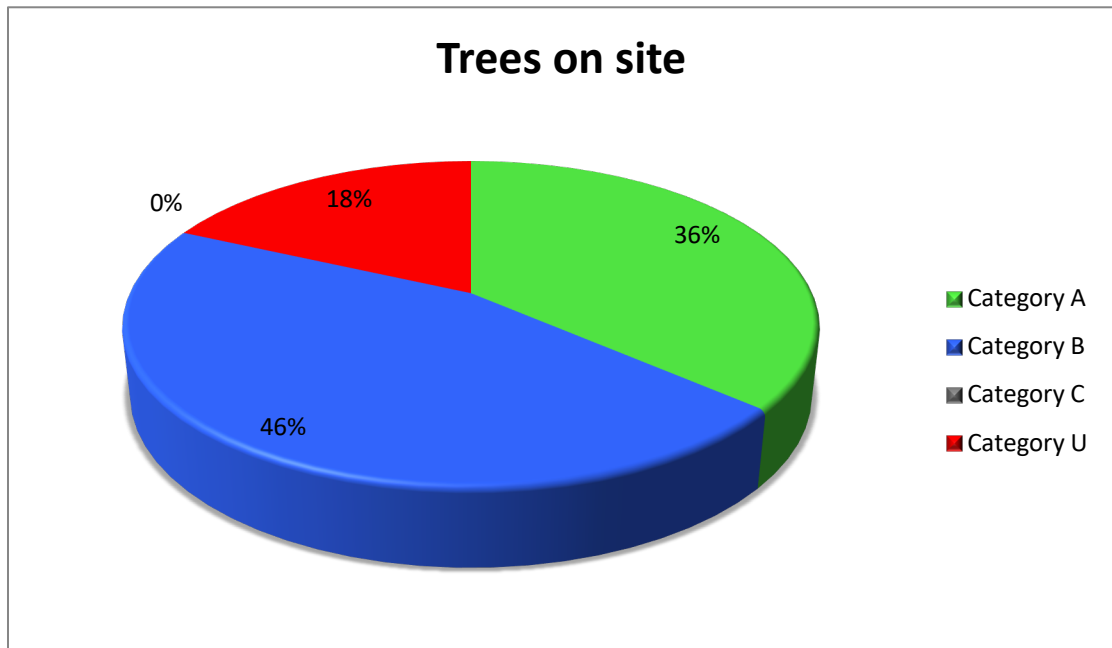
1.7 Site Details

140 Highgate Road is currently in use as a garage with a petrol station forecourt on the roadside. It is constructed into a cut away in the hillside with a publicly accessible green area either side. At the present time, there is no access from the rear of the site.

2 TREE SURVEY

2.1 Survey Summary

Total number of trees	11
Category A	4
Category B	5
Category C	0
Category U	2



2.2 Survey Method

The trees were surveyed on 05/01/2018.

Locations of the trees were plotted using a Truepulse laser range finder.

All trees were inspected from ground level only using widely accepted Visual Tree Assessment techniques, and no trees were climbed during the survey.

No trees were internally investigated. Should a more detailed inspection be required then this will be pointed out in the recommendations on the survey schedule.

2.3 Tree Details

With regard to their desirability for retention, the trees surveyed have been graded with their trunks colour coded on the tree constraints plan, and tree protection plan using the criteria contained in BS5837:2012. A summary of this grading is as follows.

A= Light Green. Trees of high quality and value, in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested in the British Standard). Usually worthy of consideration as a material constraint to any proposed development.

B= Mid Blue. Trees of moderate quality and value in such a condition as to make a significant contribution (a minimum period of 20 years is suggested in the British Standard). Usually worthy of consideration as a material constraint to any proposed development.

C= Grey. Trees of low quality and value, in adequate condition condition to remain until new planting could be established (a minimum of 10 years is recommended in the British Standard),

or trees with a stem diameter below 150mm. Not usually worthy of consideration as a material constraint to any proposed development.

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

In our survey schedule, the RPA for each tree is indicated as the radius of a circle as well as in M². This is also plotted on the tree constraints plan and tree protection plan denoted by a heavy black line which merges the individual RPAs together where there is more than one tree.

Section 4.6 of BS5837:2012 provides for the shape of the RPA to be modified from the starting point of a circle to account for site features such as hard surface treatments where root growth may be restricted, as long as the total remains the same. In this case, no RPAs were modified. **Please Note:** The facility for offsetting an RPA by 20% for open grown trees was withdrawn on May 01st 2012.

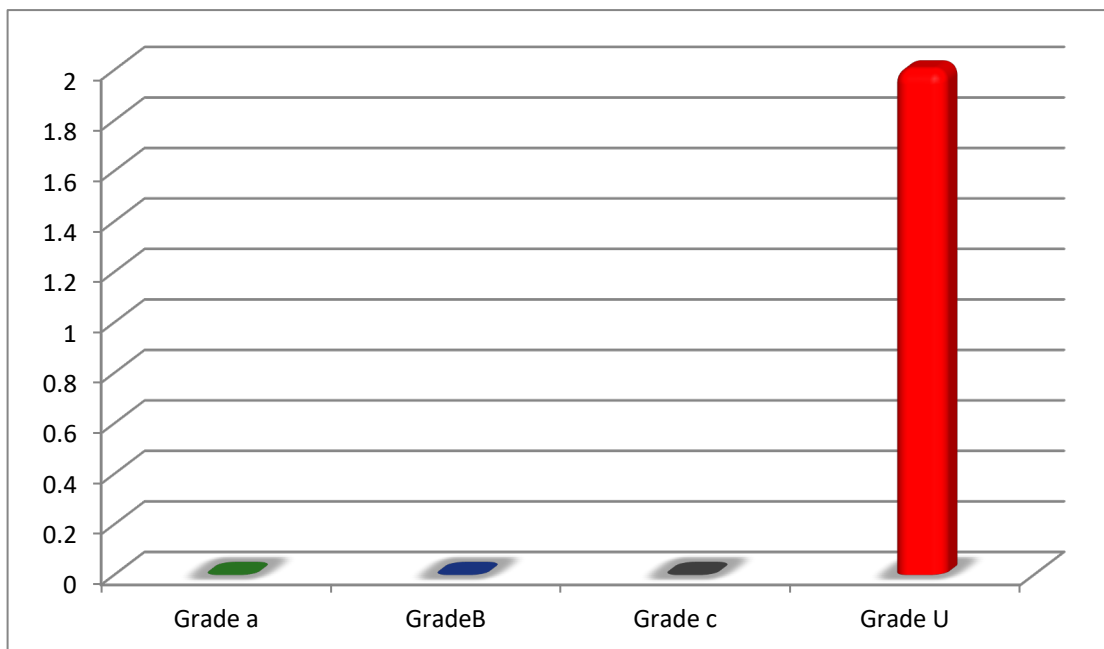
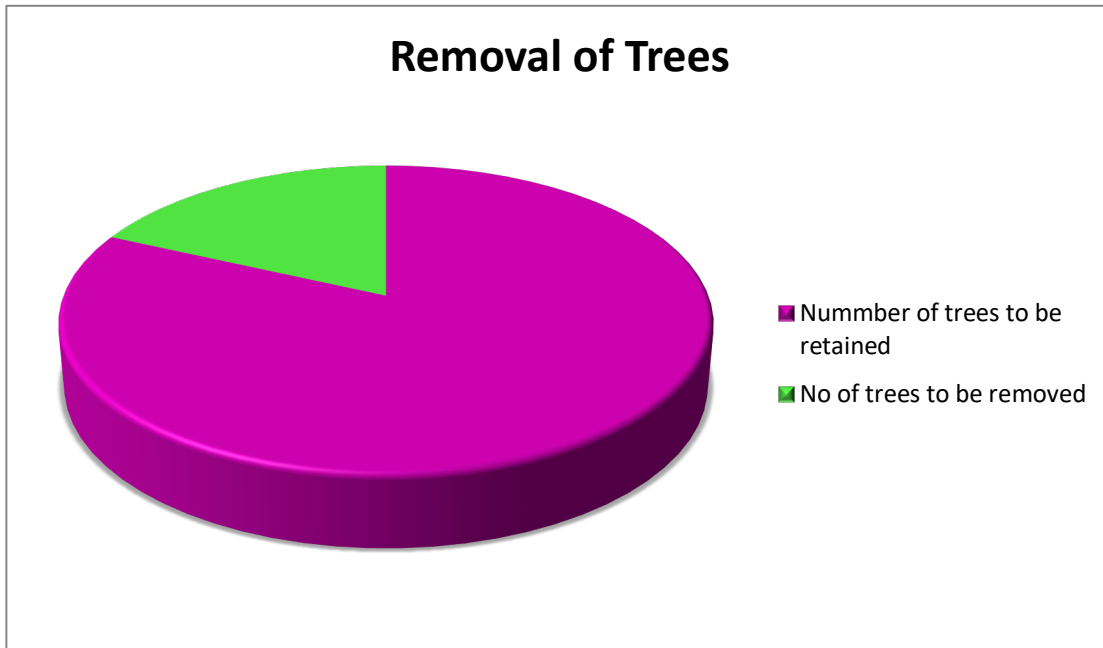
2.4 Legal Protection Status of Trees.

Type of Protection	Details/Reference
Conservation Area	No
Tree Preservation Order	No
Planning conditions requiring tree retention	No

3 ARBORICULTURAL IMPACT ASSESSMENT

3.1 Summary of Impact Assessment

Total number of trees surveyed	11
Number of trees to be removed	2
Number of trees to be pruned	0
Number of trees with RPA incursions	0



3.2 Removal of trees

There two trees that will be removed. Partly to facilitate the current proposal, and partly due to sound arboricultural management. T10 and T11 are both category U Loquat trees on the edge of the existing forecourt. Both have major bark wounds on their stems. They will be removed and their stumps ground out.

3.3 Tree Works

Apart from the tree removals listed in section 3.2 of this report, no other tree work is necessary in order to facilitate the current proposal.

3.4 Incursions into RPAs

In many instances, a low degree of root disturbance can be deemed to be acceptable. Where incursions can be fully invasive, or low level invasion can sometimes be achieved by the use of specialist methods to limit the degree of disturbance. The table details the incursions and how they are to be dealt with.

Incursions into RPAs of retained trees		
Type of incursion	Trees affected	Action
N/A	N/A	N/A

3.5 Light and Proximity Issues

There are no arboricultural light or proximity issues associated with the current proposal.

3.6 Mitigation

There is no requirement for any replanting in mitigation for tree losses in this instance.

3.7 Conclusion

Assuming full compliance with the AMS in this report, the net arboricultural impact is acceptable.

4 ARBORICULTURAL METHOD STATEMENT

4.1 Introduction

During the development process, the tree protection measures set out in this method statement must be adhered to in order to safeguard the retained trees. The principles below are specifically designed to offer a significant degree of protection to both the root systems and aerial parts of the trees for the duration of the works.

A copy of this method statement must be made available on site at all times until the cessation of any demolition, construction, and landscaping work, and the site personnel will be made familiar with the key implications of this AMS.

It should be remembered that powers were granted to Local Planning Authorities in 2005, which allow them to serve Temporary Stop Notices if agreed protection measures are strayed away from before work is completed. This can be extremely costly and very time consuming.

4.2 Pre-commencement Meeting

If the Local Planning Authority deem it necessary, a pre-commencement meeting will be held, attended by the project Arboricultural Consultant, the Site Manager, and the LPA Tree Officer. During this meeting potential problems and protection sequencing can be discussed and it is expected that all aspects of the tree protection measures set out in this AMS will be understood and agreed. Following this meeting, all parties involved will receive an email from the Arboricultural Consultant containing a record of what was discussed and agreed.

4.3 Sequencing and Supervision

Sequencing of events and effective arboricultural supervision are important elements of the tree protection process.

There is no necessity for any direct arboricultural supervision in this instance.

Key Stages:

- AMS issued to Site Manager/Building Company
- AMS to be read by all site personnel to ensure a full understanding of implications. Any raised issues are to be addressed to the project Arboricultural Consultant
- Recommended and agreed tree works to be carried out
- Tree protective fencing and ground protection installed
- Existing buildings to be demolished where appropriate
- Construction work carried out
- Tree protective fencing and ground protection removed
- Landscaping (if any) carried out

Summary of Arboricultural Monitoring and Supervision

Activity	Level of monitoring/supervision required
Erection of tree protective fencing and installation of ground protection.	Signing off of the approved tree protection measures by the project arboricultural consultant prior to any development work commencing

It is also imperative that telephone contact between the site manager and the Arboricultural Consultant is maintained with regard to any tree protection measure issues.

4.4 Site Precautions

The following points will be observed at all times:

- No fires will be lit within 15m of any retained tree on or around the site
- No access will be permitted inside the tree protection fences
- No materials, equipment, or waste will be stored inside the tree protection fencing at all
- Notice boards, telephone cables, or other services will not, under any circumstances, be attached to retained trees
- Material which contaminate soil, such as concrete, diesel oil, vehicle washings and even builders sand, will not be allowed to enter the RPA of any retained tree

4.5 Carrying out tree works

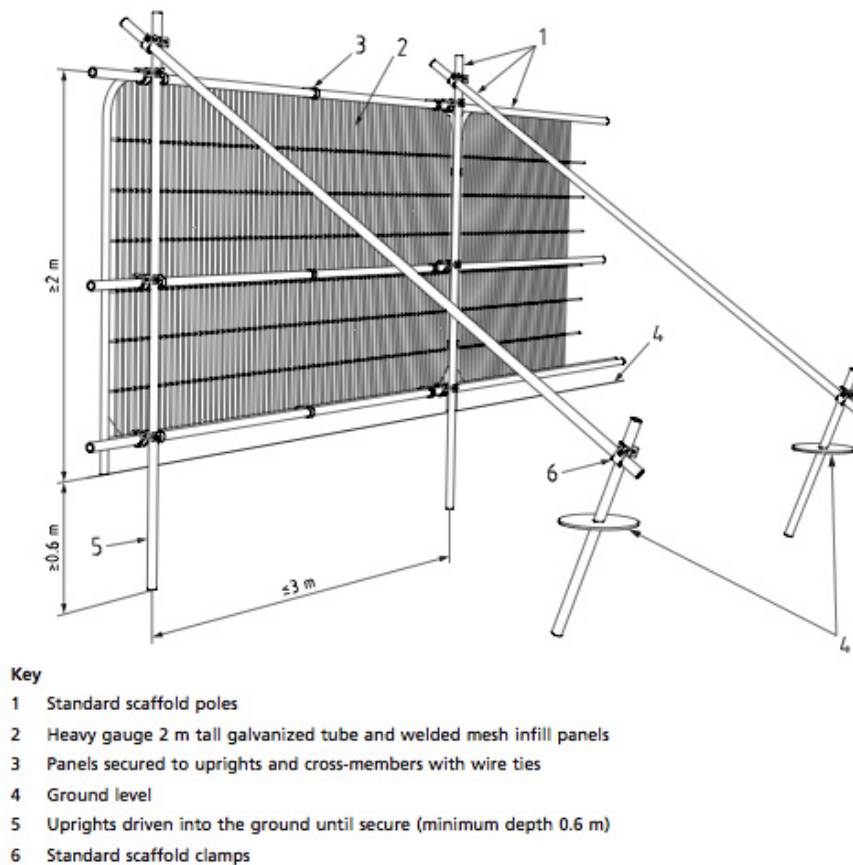
All tree works will be carried out in accordance with BS3998:2010 (Recommendations for Tree Works), and to the current arboricultural best practice. Tree works will be carried out by a suitably qualified and insured contractor. The contractor will be solely responsible for carrying out their own site risk assessment prior to the commencement of work.

If at any time during the development a need for additional tree works is highlighted to facilitate the proposed works or access for machinery/plant, the Arboricultural Consultant will be contacted to advise on appropriate works and liaise with the LPA as necessary.

4.6 Protective Fencing and Ground Protection

The required tree protective fencing should be installed to fence off the construction exclusion zone(s), or CEZ, shown on the tree protection plan (Figure 2). This must only be altered or moved as agreed in writing by the Local Planning Authority following advice from a competent Arboricultural Consultant.

The Tree Protective fencing will be 2.4m Heras fencing as specified in the BS. The fencing will be supported by a scaffold framework with supporting struts firmed into the ground on the side of the trees. The purpose of the supports is to prevent the fencing being moved during the development. Clear signs will be attached to the fencing (e.g. Tree Protective Fencing – Keep Out).



Where ground protection is specified on the tree protection plan, it must conform to the specification in BS5837:2012. This specification is as follows:-

- A geotextile membrane
- 100mm depth of a compressible layer such as wood chippings or sharp sand
- Scaffold boards or plywood of at least 19mm thickness pinned to the ground with steel pins

There are also proprietary ground protection systems available for hire where heavier duty protection is required, such as the ones offered by Eve Trakway®.

Where required, Scaffolding can be erected on top of a ground protection system as illustrated in the diagram below.

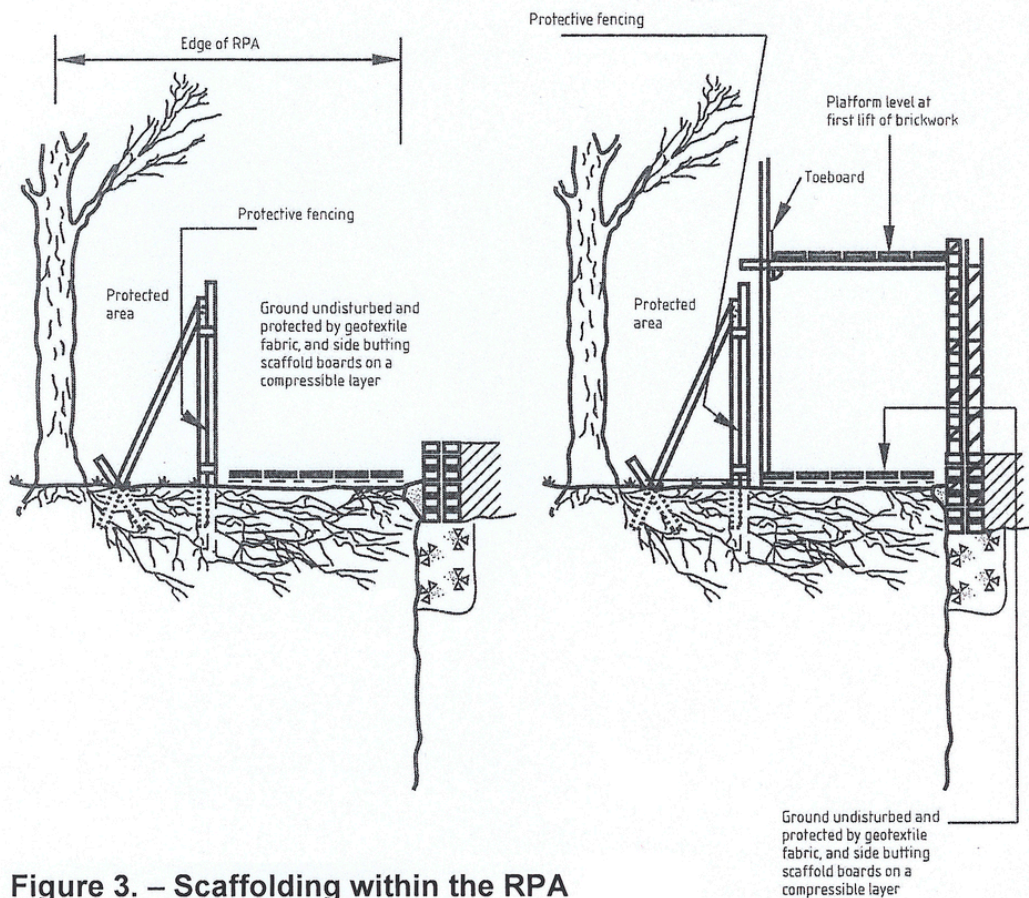


Figure 3. – Scaffolding within the RPA

4.7 Site Access

Site access is only available via Highgate Road for pedestrians and vehicles.

4.8 Demolition Work

Once the approved tree protection measures are in place, demolition will be carried out in the normal way. All waste from demolition will be stored away from the RPAs of all retained trees until it can be removed for disposal.

4.9 Underground Services

All new underground services will be routed in from Highgate Road. These will be kept outside of the RPAs of all retained trees.

4.10 Foundations and Construction

The current proposal would involve removing the current concrete foundations. Where this is within the RPAs of T5 and T9 (the brown hatched areas on the tree protection plan Figure 2), the concrete will be broken up using electric breakers and removed by hand.

Once this is done, those areas can have (phase 2) ground protection installed so that the rest of the construction work can be carried out.

Because there is no further RPA incursion, no specially engineered solutions will be necessary.

4.11 Fencing and Landscaping

During the landscaping phase of the development (if any landscaping takes place), the following precautions will be observed:

- No compaction of soil within the RPAs (or where new tree planting is to be carried out).
- No changes in ground levels.
- Unwanted vegetation to be removed manually or using contact herbicides that will not damage existing tree roots.
- No underground irrigation or drainage pipes to be installed
- If soil has been compacted in areas where planting is proposed, measures to improve soil structure (e.g. decompaction) may be necessary to facilitate successful plant establishment.

If any fence posts are installed within the RPAs of retained trees, excavation will be carried under direct arboricultural supervision using hand tools. Posts will be re-positioned if roots in excess of 25mm in diameter are encountered. Post holes will be lined with heavy gauge polythene where concrete is used to safeguard the rooting environment of the trees from the potentially toxic effects of leaching concrete.

4.12 Amendments

Issues may arise on development sites that require amendments to the previously agreed tree protection details. Any amendments to this AMS will be approved in writing by the LPA prior to being implemented. Copies of paperwork relating to any amendments will be communicated by the Arboricultural Consultant to the Client and LPA.

**This concludes the advice given in this report
Compiled and presented by
Jon Harper cert.Arb (RFS)**

TREE SCHEDULE

Tree Survey Schedule

Date: 08/02/2018
Site: 140 Highgate Road
Surveyor: Jon Harper cert.Arb (RFS)

= Category A trees
 = Category B trees
 = Category C trees
 = Category U trees






Type (Tag)	Name	Age	Category	Diameter (Stems)	Height (L/Hgt)	North	East	South	West	Condition	Life Exp	Comments	Recommendations	RPR	RPA
T1	Acer pseudoplatanus (Sycamore)	Y	B1	75(1)	4.5(2.5)	1	1.5	1	1.5	Good	20+	None at present.	None at present.	0.9	2.55
T2	Sorbus aucuparia (Rowan)	M	B2	75(1)	3(2)	2	2	2	2	Good	20+	Major bark wounding on stem.	None at present.	0.9	2.55
T3	Robinia pseudoacacia (Locust Tree)	Y	B1	75(1)	4.5(2)	2.5	2.5	2.5	2	Good	20+	None at present.	None at present.	0.9	2.55
T4	Sorbus aucuparia (Rowan)	SM	B1	75(1)	3.5(2)	1	1	1	1	Good	20+	Major bark wounding on stem.	None at present.	0.9	2.55
T5	Platanus X hispanica (London Plane)	M	A3	1150(1)	19(7)	11	12	9	8	Good	40+	None at present.	None at present.	13.8	598.36
T6	Sorbus aucuparia (Rowan)	M	B1	120(1)	3.5(1.9)	2.5	3	3	3	Good	20+	None at present.	None at present.	1.44	6.52
T7	Platanus X hispanica (London Plane)	M	A3	980(1)	18(4)	9	11	12	13	Good	40+	None at present.	None at present.	11.8	434.53
T8	Platanus X hispanica (London Plane)	M	A3	1020(1)	16(7)	10	11	12	12	Good	40+	None at present.	None at present.	12.2	470.73
T9	Platanus X hispanica (London Plane)	M	A3	750(1)	17(7)	9	9	10	11	Good	40+	None at present.	None at present.	9	254.5
T10	Loquat	EM	U	140(1)	4(2)	3	3	3	3	Good	<10	Major bark wounding on stem. Exudation on stem.	Remove tree and root.	1.68	8.87
T11	Loquat	EM	U	90(1)	4(2)	3	3	3	3	Good	<10	Major bark wounding on stem. Exudation on stem.	Remove tree and root.	1.08	3.66

TREE CONSTRAINTS PLAN

Jomas Associates Ltd

Lakeside House
1 Furzeground Way
Stockley Park, UB11 1BD.
Tel: 01895 772187

Drawing Key

- Category A Trees 
- Category B Trees 
- Category C Trees 
- Category U Trees 
- RPAs 

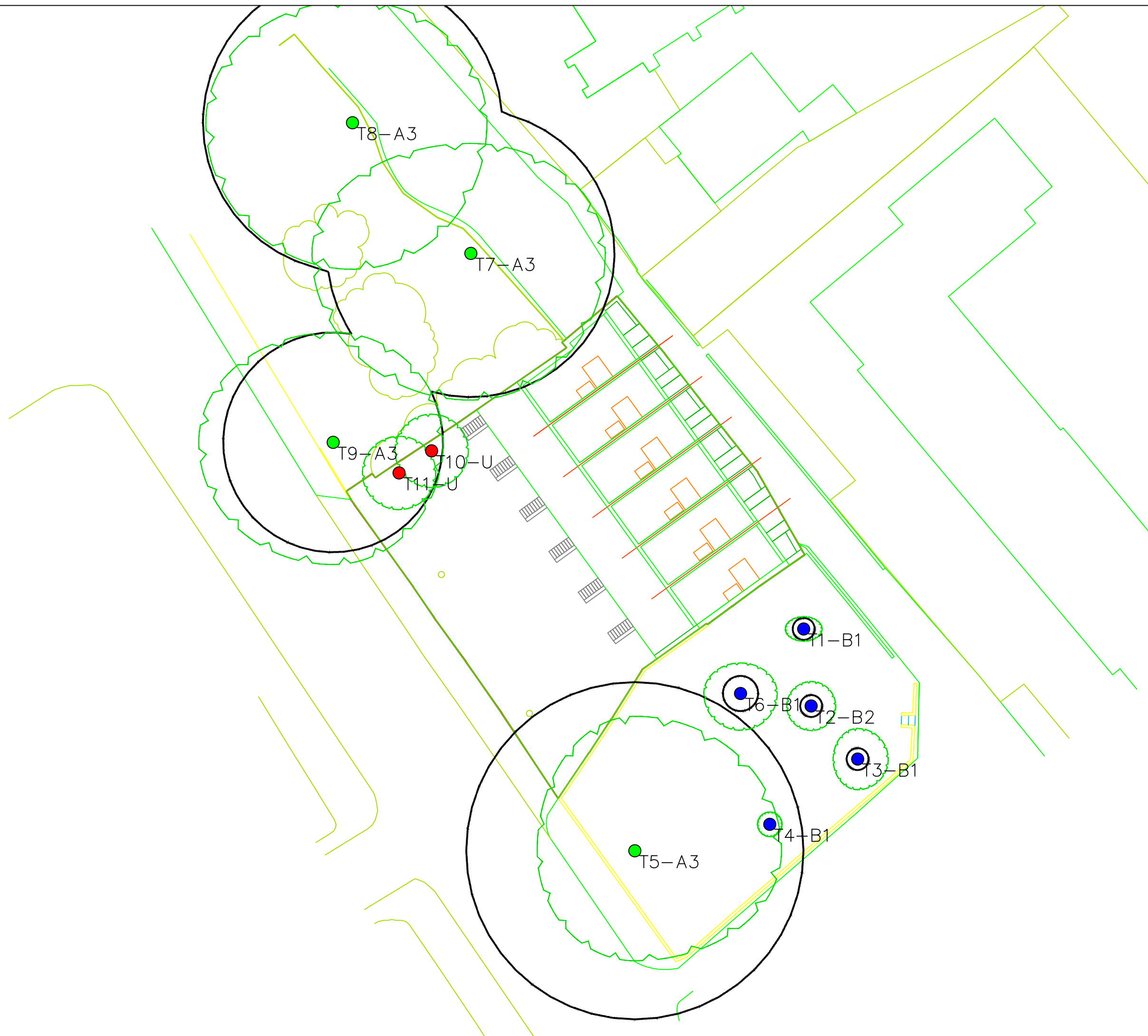
Site: 140 Highgate Road, London

Date: February 08th 2018

Drawing Reference: Figure 1

Title: Tree Constraints Plan

Scale @ A3: 1:300











TREE PROTECTION PLAN

Jomas Associates Ltd

Lakeside House
1 Furzeground Way
Stockley Park, UB11 1BD.
Tel: 01895 772187

Drawing Key

- Category A Trees 
- Category B Trees 
- Category C Trees 
- Category U Trees 
- RPAs 
- Ground protection for demolition phase (Phase 1) 
- Ground protection for Construction phase (Phase 2) 
- Type 1 tree protective fencing 

Site: 140 Highgate Road, London
Date: February 08th 2018
Drawing Reference: Figure 2
Title: Tree Protection Plan
Scale @ A3: 1:300

