ARBORICULTURAL REPORT

21 Maresfield Gardens
London

6th November 2019

Prepared by Andrew Day HND Arb. M.Arbor.A, CEnv

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Creg Na Baa, Brook Road, Tillingham, Essex CM0 7SG

Scope

The purpose of this report is to provide Arboricultural advice in relation to identifying the constraints of trees which are present on site, in relation to the proposed extension to the existing property. Providing advice on how the trees could be impacted and protection measures to be implemented using the guidelines and principles of BS5837:2012 for those to be retained.

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1 INTRODUCTION

1.1 Brief:

This report has been prepared at the request of Mr Pine the site owner, to provide advice on the arboricultural constraints that the trees on site present to the scheme, and what protection measures will need to be implemented to safeguard the trees to remain from construction pressures.

1.2 Qualifications and experience:

I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture and list the details in **Appendix 1.**

1.3 Documents and information provided:

A plan showing the proposed extension and layout of the scheme.

1.4 Relevant background information:

None.

1.5 Scope of this report:

This report is only concerned with trees located on site that could potentially be impacted by construction works to implement the proposed layout, and the measures required to provide protection for those to be retained as best prescribed in the guidance of BS5837: 2012 'tree in relation to design, demolition and construction'. Any issues regarding construction methods etc. is outside the remit of an Arborist and remedy should be sought with suitably qualified persons, for example builder, engineer etc. For the purposes of this report an Arborist / Arboriculturalist is someone who through training and experience has the knowledge to assess tree and their condition in a competent manner.

2 APPRAISAL

2.1 Brief site description:

The site is a detached residential property that has a small frontage with planted areas either side of the pedestrian access. A small path runs adjacent to the southern side of the property that leads to the rear garden, which has a small area directly behind the house that is laid to lawn. Beyond this the remainder of the garden is occupied by a large outbuilding taking up most of the rear garden space. Other residential properties of a similar nature are present in close proximity.

2.2 Condition of trees:

The tree appears to be in a healthy condition with no signs of pests or diseases normally associated with the species, with the exception of the Cherry (T5) that appears to be in terminal decline.

A more detailed analysis of the trees can be found in **Appendix 3**.

2.3 Suitability of trees for location and management requirements at present:

At present I consider T1 – T3 potentially unsuitable for long term retention given their size, growth potential and proximity to the building. In time the encroachment of the crown spreads could cause abrasion damage, which could lead to other problems such as damp entering the structure. To address this tree surgery work to selectively prune the crowns for clearance could be applied. I would suggest this would be more suitable for T1 given it is at the front of the property and offers an element of softening to the urban environment. T2 & T3 in my opinion offer no amenity value and would be best removed. As mentioned above, T5 appears to be in decline and would be best removed.

2.4 Potential effects of development on the tree:

To implement the proposal of constructing an extension to the rear of the property, T2 & T3 will be removed. These are low quality trees that offer no wider public amenity and could be considered unsuitable for long term retention because of their growth potential and proximity to the building and neighbouring property. Two new trees could be planted further down the garden space once the old outbuilding has been removed and the garden restored back to lawn. I suggest a Hornbeam and Silver Birch with a stem girth of 14cm – 16cm at the time of planting. These species are native and will provide seasonal interest, screening to the rear of the building, wildlife habitat and would suit the location for long term retention.

No other trees would need to be removed or worked on to implement this planning proposal. The RPA (Root Protection Area) of T4, T6 & T7 can be suitably fenced off to prevent encroachment into this protected area during works, as well as to stop collision damage from accidentally happening. Protective fencing will be erected as shown on the tree protection plan in **Appendix 5**. If there is a need for access over the RPA (Root Protection Area) on soft ground, there is a risk of soil compaction occurring. Therefore, suitable ground protection will be in place to prevent compaction happening. It is unlikely this will be required given the RPA associated with these trees is outside of the construction zone. Details of this and other protection measures can be found in **Appendix 3**.

The main risk to the trees will be from indirect actions associated with construction works such as, careless storage / manoeuvring of plant or materials or if toxins are allowed to leach into the soil. This can be prevented from following the measures out lined in the tree protection method statement in **Appendix 3**. There is space on site for material storage / manoeuvring and plant parking, this will need to be carefully considered by the site manager prior to works commencing on site to ensure the trees are not impacted in anyway. The Tree Protection Method Statement in **Appendix 3** will be adhered to prevent the trees being damaged.

In this case the potential impact of the proposal in relation to the trees to be retained is considered to be moderate to low with measures being able to be put in place to prevent unnecessary harm.

2.5 Potential effects of the trees on the development:

Leaf litter could become a problem if it causes drains or gutters to become blocked, that could impact in other ways on the building, or if left on access surfaces where they could become a slip hazard. To address this gutter guards could be installed to prevent build-up of leaf litter that could become a problem, or regular cleaning of the gutters employed. Regular clearing of falling leaves on the access route, especially in times of wet weather will address any potential slip hazards caused by this seasonal occurrence. Shadow cast is unlikely to be an issue, because the orientation of the extension in relation to the trees means that the shadow will fall away from the building.

The conflicts normally encountered with having buildings near to trees can be addressed with scheduled maintenance.

2.6 Proposed solutions to safeguard the trees during construction works:

2.6.1 Protective fencing and ground protection

Protective fencing will be placed in the locations shown on the tree protection plan in **Appendix 5** prior to works commencing on site. The fencing will be retained at times. Access beyond the fence line will only be allowed with good reason and with the tree officer's permission. It is important to ensure that construction activities do not occur beyond the extents of the protective fence line. If access over the RPA is needed, ground protection as per BS5837:2012 will be in place suitable for the traffic being used to cross the RPA on soft ground.

2.6.2 Services

No details relating to service runs have been provided, I suspect that the existing services to the building will be used; I do not see this being an issue. As long as the service runs are located outside of the RPA this will not conflict with the trees. This will be confirmed by the project architect.

2.6.3 Site facilities and material storage

Care will have to be taken to identify the type of materials required and the access of any machinery, vehicles or plant needed to move them, as these can cause collision damage to aerial parts of the tree as well as soil contamination. **The site manager will provide details** on this aspect of the project if felt necessary by the local authority.

2.6.4 Works within RPA

No works are proposed to take place in this protected area.

2.6.5 Site supervision

The site manager will provide a timetable of works on the site, listing all the key stages of development, starting with the demolition and excavation works, establishing site facilities, through to completion of the site. Arboricultural supervision will take place prior to works commencing on site to ensure protection measures are understood and implemented with a pre-commencement meeting with the site manager and other relevant personnel. Another visit will take place when the excavation works within the RPA, one mid-way through the work timetable and once at the end. If this is deemed unacceptable by the tree officer, monthly supervision meetings will take place and at key stages such as foundation installation, or on a frequency agreed with the tree officer.

Prior to work, all key personnel connected with the site will be briefed by an arborist about the importance of the tree protection and methods of ensuring that the tree are protected during the construction period. A record of all arboricultural related site meetings will be made, signed off and available for inspection by the local authority if required.

2.6.6 Site completion

Once work has been completed, an arborist will inspect the tree and comment on its condition and prescribe any mitigation works required. The tree protection measures are expanded upon in **Appendix 3**.

2.6.7 Tree management works

T2 & T3 will be removed to facilitate development.

3 CONCLUSIONS

- The tree appears to be in good health with no signs of pests or diseases normally associated with the species, apart form T5 that appears to be in decline and would be best removed.

- To facilitate the construction of the extension T2 & T3 will be removed. These are low quality trees with no wider public amenity, and that could be considered unsuitable for long term retention despite the development proposal in this location.

- The removal of T2 & T3 can be compensated for by planting two more trees further down in the garden, where they will have space to develop and offer more amenity and wildlife benefit for many years to come.

- The remainder of the trees are to be retained and will be protected with suitable fencing to prevent collision damage or access across the RPA. If access over the RPA is required on soft ground, suitable ground protection will be in place.

- No excavation work in the RPA of trees to be retained is needed.

- The trees can be retained and adequately protected from construction pressures by implementing and adhering to the protection measures provided in the method statement in **Appendix 3**.

4 OTHER CONSIDERATIONS

4.1 Tree subject to statutory controls:

I do not know if the trees are the subject of a tree preservation order or other protection legislation. I suggest that the local authority is contacted to confirm this and kept updated with any proposed tree works to form a good working relationship and to prevent misunderstandings or contravention of protection measures. This is an advisory for readers of this report and not meant as a confirmation as to the protection status of the tree commented on.

Andrew Day HND Arb
For Andrew Day Arboricultural Consultancy Ltd.

Brief qualifications and experience of Andrew Day

I hold a Higher National Diploma in Arboriculture. I have been working in the field of arboriculture for approximately 10 years, spending time as a contracting arborist undertaking all aspects of practical arboriculture both in the UK and Europe. I have also worked within local government as a tree officer working for a variety of local authorities. I have a broad experience of both the practical and theoretical aspects of arboriculture having worked within the public and private sector. I am currently a consulting arborist for Andrew Day Arboricultural Consultancy.

1. Qualifications:

Higher National Diploma in Arboriculture (1996)

NPTC (National Proficiency Training Council) units 20, 21 and 22

Lantra professional tree inspection certificate

2. Practical experience:

Prior to establishing my company, I worked for a private Arboriculture company for three years undertaking many practical aspects of Arboriculture. I moved on from this to become a local authority tree officer for five years, my duties included consultation on planning matters about tree, advice to the public, managing the council's tree stock and liaising with other professionals on Arboricultural related issues. I was approached by an established tree contracting and consulting company in Essex to develop and run the consultancy department as their principle consultant which I did for three years.

Appendix 2

SITE PHOTOGRAPHS

		
Showing T1		Showing T2, T3 & T7
		
Showing T4 & T5		Showing base of T5 & T6 adjacent the outbuilding

SITE SPECIFIC INFORMATION

Explanatory Notes

Tree Survey

Tree Protection Method Statement and Protection Criteria

Informatives for protection fencing

Arboricultural Considerations notice for site hut and inducted personnel

Explanatory Notes

Measurements/estimates: All dimensions are estimates unless otherwise indicated. Measurements taken with a tape or clinometer are indicated with a '*'. Less reliable estimated dimensions are indicated with a '?'.

Species: The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after in brackets. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicate it with a '?' after the name in order to avoid delay in the production of the report. The botanical name is followed by the abbreviation sp if only the genus is known. The species listed for groups and hedges represent the main component and there may be other minor species not listed.

Height: Height is estimate height to the nearest metre.

Spread: The maximum crown spread is visually estimated to the nearest metre of the total crown spread diameter. It should be noted that the crown of some tree can be one side, however this usually indicated within the report.

Diameter: These figures relate to 1.5m above ground level and are recorded in centimetres. Estimate measurements are banded 0-10cm, 11-20, 21-30 etc. If appropriate, diameter is measure with a diameter tape. 'M' indicates tree or shrubs with multiple stems. 'AV' indicates average and is the average of two stems when dealing with twin stem tree.

Estimated Age: Age is assessed as mature (last one third of life expectancy), semi-mature (one third to two thirds life expectancy) and young (less than one third life expectancy).

FSB: First significant branch from ground level (direction shown on tree protection / constraints plan)

SULE: This is the estimated Safe Useful Life Expectancy of the tree. Tree can live longer than this value but can pose a risk to persons or property.

RPR: Radius of root protection area around the tree /group

RPA: Root protection area for tree or group

BS 5837 2012 - On the basis of this assessment, tree can be divided into one of the following categories:

- **A -** Tree whose retention is most desirable; High category
- **B -** Tree where is desirable; Moderate category
- **C -** Tree which could be retained; Low category
- **U -** Tree that cannot realistically be retained; Fell category

Tag	Name	Age	Diameter	Height	Crown Hgt	FSB Hgt	Crown Spread (N S E W) (m)				Life Exp	Recommendations	Category	RPR	RPA
T1	Magnolia (Magnolia)	EM	250	10(2)	2	2	2	2	2	2	20+	No Works required at present. Consider selectively reducing back off of the building to prevent abrasion damage.	B3	3	28.28
T2	Ilex aquifolium (Holly)	EM	200	10(2)	2	2	1	1	1	1	20+	No works required at present. Consider removing because unsuitable for long term retention.	C3	2.4	18.1
T3	Unknown (Unknown)	EM	200	10(2)	2	2	4	1	3	5	20+	No works required at present. Consider removing because unsuitable for long term retention.	C3	2.4	18.1
T4	Pyrus (Pear)	EM	200	12(2)	2	2	2	2	2	2	20+	No works required at present.	C2	2.4	18.1
T5	Prunus avium (Wild Cherry)	EM	250	12(2)	2	2	3	1	4	4	20+	Appears to be in terminal decline. Remove.	U	3	28.28
T6	Fraxinus excelsior (Ash)	EM	250	12(2)	2	2	3	3	3	3	20+	No works required at present. Located in third party ownership.	C2	3	28.28
T7	Acer pseudoplatanus (Sycamore)	EM	200	15(3)	3	3	3	3	3	3	20+	No works required at present.	C2	2.4	18.1

Method Statement for Tree Protection Measures

PROJECT: 21 Maresfield Gardens, London

CLIENT: Mr Pine

1.1 Brief

Provide protective measures specification for trees to be retained using the guidelines and principles prescribed in BS5837: 2012 'tree in relation to design, demolition and construction'.

1.2 Protective Fencing and Site Supervision

An important factor in providing protection for the tree during the construction works is the chronological order in which development tasks are undertaken. Before work continues on site, the following issues will be addressed and submitted to the council for approval.

- A suitably qualified arborist will be retained to oversee tree protection measures where required and liaise with the tree officer and contractors. The contact information of this arborist will be made available to the council tree officer prior to works starting on site.

- A pre- commencement meeting with a suitably qualified arborist will take place with the site manager and other relevant site personnel, to debrief them on the importance of the protection measures and to assist in setting up of the protection fencing etc. before work commences on site.

  The arboricultural site supervision schedule will be compiled at the pre-commencement meeting and will be the responsibility of the site manager to ensure that it is carried out and maintained for the duration of the works.

1.2.1

Protective fencing will be as shown in **diagram 1** or similar that demonstrates that it is fit for purpose. It will be placed in the locations as shown on the tree protection plan in **Appendix 5**, prior to works commencing on site.

The informatives provided will be attached to the fencing to highlight its importance at a height of 1.5m and at 5m intervals along the line of fencing, or in locations that can demonstrate they are clearly visible to identify the purpose of the fencing in relation to the project

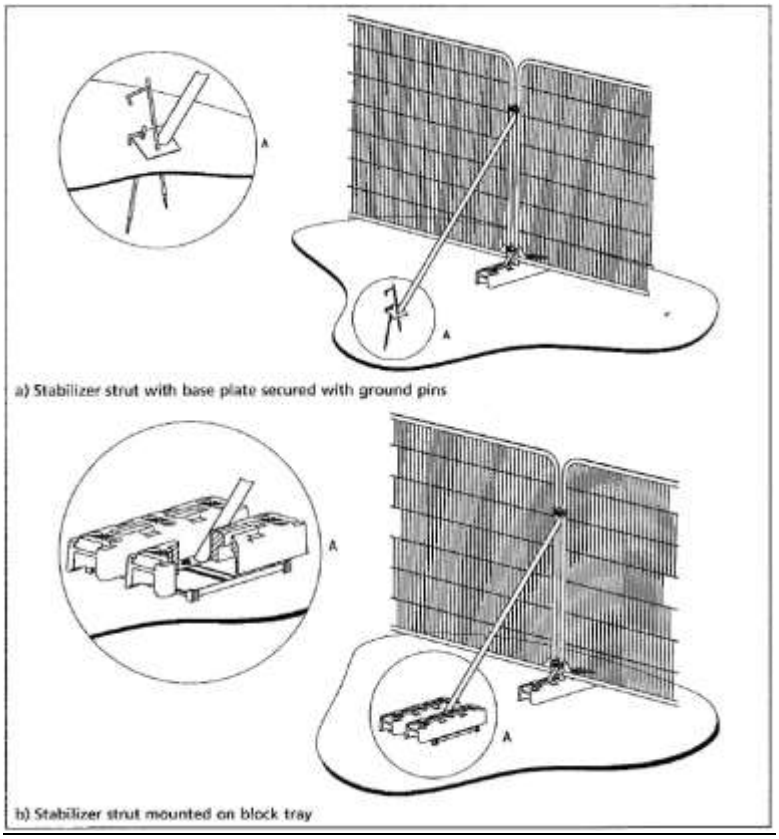
1.2.2

A pre-commencement inspection by the supervising arborist will take place to ensure the protective measures are understood and a schedule of arboricultural site monitoring is formulated at the start of the project, these will consist of a visit by a suitably qualified arborist once at the start, once midway through the project and once towards the end. If this is not acceptable with the tree officer than visits shall be scheduled once a month for the duration of the project. A log of these visits and any actions required will be available to the council on request and kept on site.

1.2.3

All personnel inducted on site will be made aware of the tree protection measures and will be responsible for their own actions in maintain these and ensuring that they do not cause any damage to the trees.

Diagram 1



1.3 Forbidden activities within RPA

1.3.1 Within the root protection area, the following activities will be prohibited, unless the local authority in writing grants specific permission:

1.3.2 No storage of chemicals or other substances likely to leach and cause harm to the tree to be stored, unless precautions have been taken to prevent this such as sealed bunds etc.

No storage of heavy plant or materials likely to cause further soil compaction.

No ground disturbance works, apart from what has been approved by any planning permissions or specifically form the council.

No activities that could indirectly affect the tree such as bonfires etc.

1.3.2 No excavation works apart from those granted in a planning permission is to be undertaken within the confines of the RPA without the written permission of the local authority.

The protected area is not to be breached at any time, unless the local authority has granted permission and a qualified arborist has been consulted and supervises any work activities that need to take place.

1.4 Storage of chemicals / mixing of materials

1.4.1 Storage of chemicals will be placed in a sealed area, with no discharge allowed onto the ground or watercourses. The area containing these materials will have an impervious surface and stored **if possible** 10m away from the RPA. If accidental spillage of chemicals or other damage to the tree takes place the local authority is to be notified as soon as possible, an arborist is consulted as to the best actions to take to mitigate any damage that may have occurred as a result of the accident and these works to be undertaken to mitigate the situation as soon as possible.

1.5 Works within the RPA

1.5.1 **No excavation works will need to take place within the RPA to implement this proposal. If this changes then the permission of the local authority will be required to do so. A hand dig method statement will then be provided, to demonstrate how the works will be achieved and the trees suitably protected.**

1.6 Material storage / site parking

1.6.1 Particular attention will be made to the type of materials to be stored and the type of machinery needed to move them, ensuring that sufficient protection measures in accordance with this method statement and space are provided to prevent damage to the tree. The site manager will provide a plan or details of the locations of material storage, site facilities etc to demonstrate how this has been considered to prevent collision damage happening.

1.7 Ground Protection

1.7.1 If access across the RPA on soft ground is needed, then the following ground protection will be installed.

For pedestrian traffic:

A single thickness of scaffold boards placed on top of a scaffold frame so as to form a suspended walkway (similar to diagram 2), or boards laid on to a geotextile membrane with a layer of wood chips 100m in thickness.

For pedestrian operated plant, up to 2 tonnes:

Interlinked ground protection boards of plywood or similar at least 2.5cm thick, laid onto a geotextile membrane on a bed of wood chip 150mm in depth.

For wheeled or tracked traffic exceeding 2 tonnes gross weight:

Metal tracking designed and fit for purpose, pre-cast concrete slabs or similar, laid to an engineering specification on a compression resistant layer e.g. wood chips that will likely spread the weight of the load and prevent compression of the soil underneath.

1.7.2 **AT NO POINT WILL THE GROUND WITHIN THE RPA BE LEFT UNPROTECTED IF ACCESS IS REQUIRED IN THIS AREA**.

1.8 Completion

1.8.1 Once all of the construction activities on the site have been completed and a suitably qualified arborist will assess the condition of the trees and liaise with the local authority accordingly if any works are considered necessary. Any proposed landscaping works will take into account the tree protection measures and adhere to them. I.e. no rotavating within the RPA. The landscape contractor will liaise with the supervising arborist as to the works involved to ensure there will be no conflict with the trees.

ANDREW DAY ARBORICULTURAL CONSULTANCY LTD

REDUCING COSTS BY DELIVERING PRACTICAL SOLUTIONS

TREE PROTECTION ZONE

DO NOT CROSS WITHOUT PERMISSION

BREACHING THIS BARRIER CAN RESULT IN THE FOLLOWING:

- **SHUT DOWN OF THE JOB**
- **FINANCIAL IMPLICATIONS**
- **CRIMINAL PROCEEDINGS**

ARBORICULTURAL SITE CONSIDERATIONS

THIS NOTICE IS TO BE DISPLAYED IN THE SITE OFFICE OR A SUITIBLE LOCATION WHERE IT IS CLEARLY VISIBLE AND ISSUED TO ALL PERSONNEL INDUCTED ONTO SITE

The following site considerations must be observed at all times during the development process, from site preparations through to completion.

- The protected area of the RPA must be regarded as sacrosanct and not breached except where to implement the planning permission granted, without prior consultation with either the local planning authority or the supervising arborist.
- Ground protection must not be lifted or removed without prior consultation with either the local planning authority or the supervising arborist.
- Damage caused to ground protection must be reported to the site manager to ensure suitable repair or actions are taken.
- No materials, chemicals, machinery or vehicles to be stored within the RPA (root protection area) as defined on the tree protection plan and on site by fencing and ground protection.
- No materials etc. must be rested against or machinery chained to tree.
- No pruning of tree may be undertaken by anyone other than a qualified arborist and approved by the supervising arborist and local authority tree officer.
- Any physical damage caused to a tree to be retained must be reported to the site manager immediately so that suitable remedial works can be commissioned without delay.
- Builder's sand (which contains high levels of salt) must not be used to back fill excavations within or in close proximity to tree roots, as it has a toxic effect and can cause root desiccation. Sharp sand must be used under such circumstances.
- Soil contaminants such as concrete mixings, diesel oil and vehicle washings must be kept suitably contained, preferably within bunded areas. Any spillages within 2m of a fenced area must be reported to the site manager and supervising arborist immediately so that suitable mitigation works can be commissioned.
- Fires must not be lit in positions where their flames can extend to within 5m of foliage, branches or trunks. Wind direction and size of fires will impact on this.
- Notice boards, telephone cables or other services etc. must not be attached to any part of a tree.

Remember the tree officer can turn up at any time or neighbours may report any poor practice or threats to the tree.

Site Personnel Contact Information

As far as I am aware the only personnel associated with this site at the time of writing this report is the site owner and project architect. Table 1 shows the contact details of the project architect who is to be contacted if any enquires relating to this project need answering.

Table 2

Name	Relation to Site	Contact Details
Pinzauer	Project Architect	07824733260

LIMITATIONS AND QUALIFICATIONS

LIMITATIONS AND QUALIFICATIONS

Unless specifically mentioned the report will only be concerned with ground inspections. No below ground inspections will be carried out without prior confirmation from the client that such works should be undertaken. This report is for the purposes of identifying the constraints of tree in relation to development and not a health and safety assessment of the tree. A cursory assessment of the tree health and condition will be recorded, but this is not to be taken as a detailed assessment of its structural condition, health and management recommendations in relation to this. A separate tree inspection regime focusing on these aspects will need to be undertaken if this is required.

The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available during the inspection process. No checking of independent data will be undertaken, Andrew Day Arboricultural Consultancy will not be responsible for the recommendations within this report where essential data are not made available or are in accurate.

This report will remain valid for one year from the date of inspection but will become invalid if any tree works not recommend within the report are undertaken, soil levels around the tree are altered in any way and if any building works which were not disclosed during the inspection are undertaken. If extreme weather changes occur such as heavy winds, snow etc., the tree will need to be re-inspected to ensure their condition has not been affected or has altered from the initial inspection details obtained.

If any of the above occurs, then it is strongly recommended that a new tree inspection is carried out.

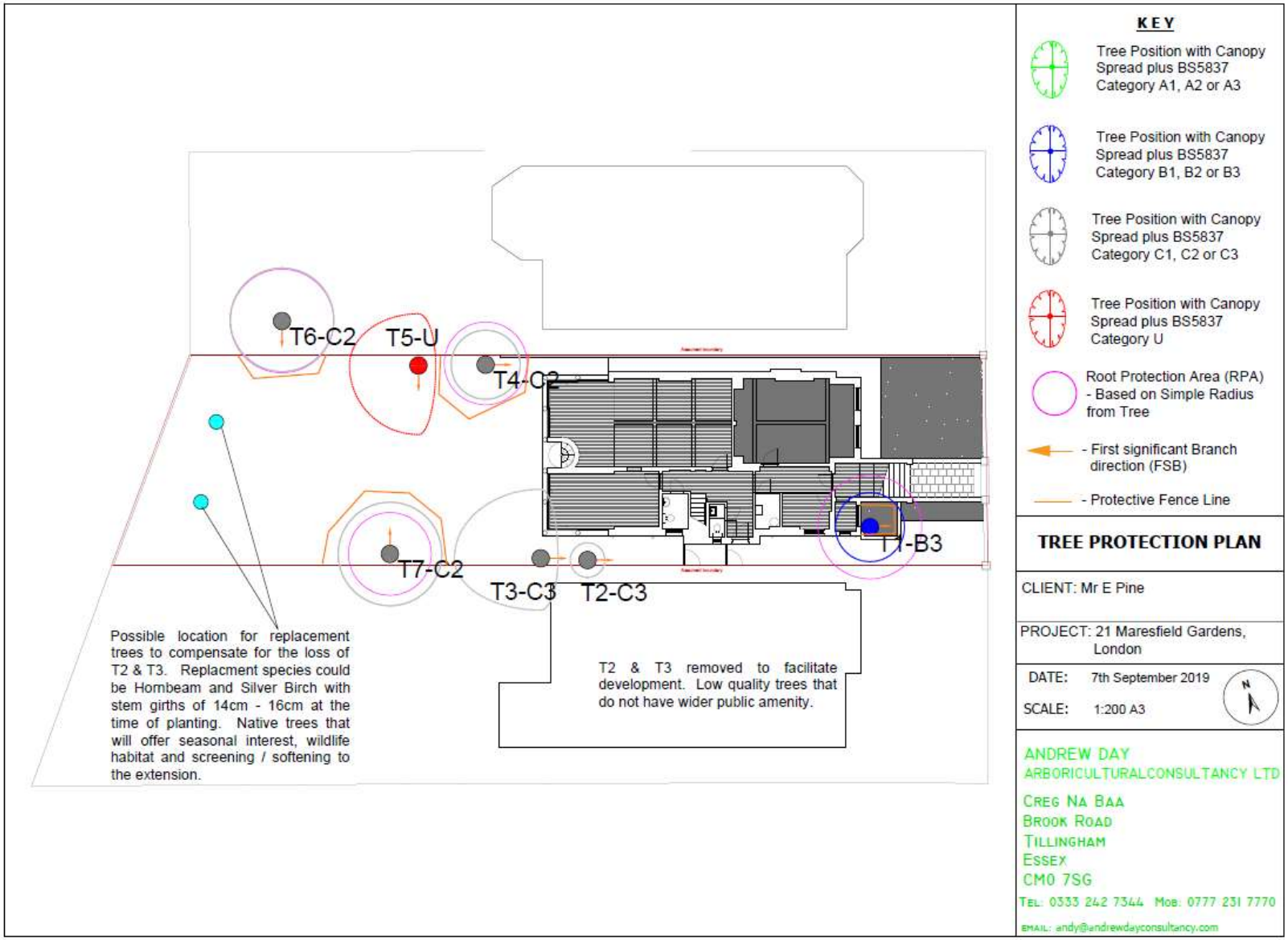
It will be appreciated, and deemed to be accepted by the client that the formulation of the recommendations for the management of the tree will be guided by the following:

1. The need to avoid reasonable foreseeable damage
2. The arboricultural considerations – Tree safety, good Arboricultural practise and aesthetics.

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

TREE PROTECTION PLAN

(For reference only. Please refer to the separate A3 plan for scaling if required)


T6-C2
T5-U
T4-C2
T1-B3
T7-C2
T3-C3
T2-C3
Possible location for replacement trees to compensate for the loss of T2 & T3. Replacment species could be Hornbeam and Silver Birch with stem girths of 14cm - 16cm at the time of planting. Native trees that will offer seasonal interest, wildlife habitat and screening / softening to the extension.
T2 & T3 removed to facilitate development. Low quality trees that do not have wider public amenity.
KEY
Tree Position with Canopy Spread plus BS5837 Category A1, A2 or A3
Tree Position with Canopy Spread plus BS5837 Category B1, B2 or B3
Tree Position with Canopy Spread plus BS5837 Category C1, C2 or C3
Tree Position with Canopy Spread plus BS5837 Category U
Root Protection Area (RPA) - Based on Simple Radius from Tree
- First significant Branch direction (FSB)
- Protective Fence Line
TREE PROTECTION PLAN
CLIENT: Mr E Pine
PROJECT: 21 Maresfield Gardens, London
DATE: 7th September 2019
SCALE: 1:200 A3
N
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