Connick Tree Consultants

TREE DEVELOPMENT REPORT

(BS5837:2012 ARBORICULTURAL IMPACT ASSESSMENT**)**

OUR REFERENCE	186723/PRO
CLIENT	Vita Architecture Ltd
PLANNING AUTHORITY	Camden Council
SITE	5a Parkhill Road, London, NW3
SURVEY & REPORT BY	Mr Paul Roberts
DATE	3rd February 2022

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1 INTRODUCTION

1.1 INSTRUCTION

Connick Tree Consultants were instructed by Vita Architecture Ltd to produce an Arboricultural Impact Assessment of the proposed development works at 5a Parkhill Road, Camden to replace the two existing garden rooms with new additions. This will be undertaken in accordance with BS5837: 2012 Trees in relation to design, demolition and construction - Recommendations.

1.2 SCOPE OF REPORT

This Arboricultural Impact Assessment has been based on the tree survey data obtained during our site visit on the 15th November 2021. Details of all trees within and adjacent to the site can be found in the tree Survey Schedule attached as Appendix I. Their locations are shown within the Tree Constraints Plan attached as Appendix II.

The tree information recorded relates to the tree condition, age, safe useful life expectancy, location, canopy spread, canopy height and tree height and direction of first significant branch as well as any work that is required. Where trees are located within neighbouring third-party properties, the assessment in relation to their condition has been made upon the visible parts of the tree and all measurements estimated.

No information in regard to soil assessment was provided and no investigation was taken on site.

A topographical survey was provided. Any features present have been plotted on this basis. Where missing trees required plotting, these were completed by eye using on site fixed features. No liability is accepted for the accuracy of these drawings, and they should not be scaled from.

The report and recommendations relate to the condition of the trees and their surroundings at the time of inspection only. Trees are living organisms whose health and condition can change rapidly and all trees, even healthy ones, are at risk from unpredictable climatic and man-made events. This report and recommendations relate to the condition of the trees and their surroundings at the time of inspection only.

1.3 DOCUMENTATION

I have been provided with the following information in regard to the development:

- Proposed plans and elevation drawings by Vita Architecture Ltd.

1.4 QUALIFICATIONS AND EXPERIENCE

I have based this report on my site observations, and I have come to conclusions in the light of my qualifications gained and experience obtained whilst working in the field of arboriculture. I have qualifications and practical experience in arboriculture and list the details of this in Appendix IV.

1.5 LIMITATIONS AND USE OF COPYRIGHT

DISCLAIMER: I have no connection with any of the parties involved in this situation that could influence the opinions expressed in this report.

2 SITE VISIT AND OBSERVATIONS

2.1 SITE VISITS

The initial site visit was undertaken on the 15th November 2021 by the author of this report who is a qualified arboriculturist. The weather at the time of inspections was clear with good visibility.

2.2 GENERAL OBSERVATIONS AND BACKGROUND

The site of the proposed development is situated at the residential property of 5 and 5a Park Hill Road, London, NW3 within the Maitland Park area of Camden.

The site consists of the residential property of 5a an apartment located within a divided Victorian semi-detached town house, with gardens to the front and rear, and parking on the north east corner.

The property is bordered by residential properties on both sides and to the rear and to the front by the public highway, with further residential properties beyond.

The proposed development is for the demolition of the existing garden rooms and the construction of two new garden studios on a similar footprint.

The locations of all trees included in the survey are shown within the Tree Constraints Plan details attached as Appendix II.

2.3 SOIL TYPE

No on-site soil analysis was undertaken. Reference has been made to the British Geological Survey maps for an indicative guide to underlying soil characteristics. The online BGS 1:50,000 scale map for the area indicated the property is located on the London Clay Formation - Clay, Silt And Sand.

London Clay Formation - Clay, Silt And Sand is a plastic clay subsoil which is susceptible to undergoing volumetric change in relation to changes in soil moisture. As such it is recommended that a structural engineer is consulted to ensure the property is constructed in such a manner to avoid the risk of indirect damage though subsidence or heave.

3 TREE SURVEY

In total 13 arboricultural features were recorded during the survey process, within or adjacent to the site. Attached as Appendix I is a schedule summarising the information obtained within the survey process.

The trees surveyed have been assessed and categorised in accordance with the Cascade chart in section 4 of the BS5837:2012. This has identified that there are the following within or adjacent to the site:

No 'A' grade tree of high quality and value, which is worthy of retention and a high level of protection. A grade trees should be retained.

4 individual 'B' grade trees of moderate quality and value, which are worthy or retention and protection. These trees should be retained where possible within the proposed development.

9 individual 'C' grade trees of low quality and value, which should only be retained and protected when they do not pose a constraint on the development.

No 'U' grade tree which have been identified as requiring removal for reason of sound arboricultural management

The location of the trees is shown on the Tree Constraints Plan attached as Appendix II. All trees surveyed have been given a unique identification number and are identified on the schedules and plans by a 'T' prefix for individual trees.

3.1 TREES SUBJECT TO STATUTORY CONTROLS

A desktop assessment via Camden Council's online planning search and Conservation Area mapping system identifies that the site is located within the Park Hill conservation area and indicates that no trees within or adjacent to the site are subject to a Tree Preservation Order.

However, prior to any works to the trees a check of these statutory protections should be made to the local authorities tree officer.

4 TREE CONSTRAINTS

4.1 ROOT PROTECTION AREA

In order to avoid damage to the tree roots or rooting environment, a minimum area in m² should be left undisturbed around each retained tree (category A, B and C trees).

The root protection area's (RPA's) of the trees recorded within the survey are shown in the Tree Constraints Plan (Appendix II).

The root protection area has been calculated using the formula specified within section 4.6 of the BS5837:2012 standard and should initially be plotted as a circle centred on the base of the stem.

The RPA can be modified where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically. Any deviation in the RPA from the original circular plot should reflect soundly based arboricultural assessment of potential root disturbance and take into account the following factors, whilst still providing adequate protection for the root system.

- The morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground services).
- Topography and drainage.
- The soil type and structure.
- The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

The calculated RPA should be capped at 707m², which is equivalent to a circle with a radius of 15m or a square with approximately 26m sides (BS 5837:2012 Trees in relation to design, demolition and construction).

4.2 CONSTRUCTION EXCLUSION ZONE

The Construction Exclusion Zone (CEZ) required by the current edition (2012) of BS 5837 Trees in Relation to Design, Demolition and Construction relates to the stem diameter of each tree when measured at a height of 1.5m from ground level. The CEZs are to be afforded protection at all times and will be protected by a combination of fencing and ground protection measures.

4.3 ABOVE GROUND CONSTRAINTS

The current height and canopy spread of the trees is an important factor which needs to be considered when deciding the layout of a proposed development. The shading of trees, and/or their size can cause anxiety to residents, leading to pressure for pruning or removal. However, as the proposed development is for the replacement of the existing garden rooms, shading should not be seen as a constraint.

5 ARBORICULTURAL IMPACT ASSESSMENT

The following Arboricultural Impact Assessment has been made in relation to the proposed development details provided by our client. This is for the demolition of the two existing garden rooms and construction of two new replacements. The location of the footprint of the proposed development has been included within the attached Arboricultural Impact Plan.

5.1 SIGNFICANT TREES

The survey has identified that there are no 'A' grade tree on site. However, tree T4 is a prominent Mature Oak located on the rear boundary in an area of existing hard standing. Full details of these trees can be found within the attached tree survey schedule.

5.2 TREE REMOVAL FOR REASONS OF SOUND ARBORICULTUAL MANAGEMENT

The survey process has identified that no trees located within the site require removal due to reasons of sound arboricultural management.

5.3 TREE LOSS

Consideration has been given to retaining all trees on site. However, ultimately their removal is dependent on their condition and proximity to the development. This has identified that 1 individual category 'C' tree will require removal to facilitate the development.

Table 1: Showing which require removal to facilitate the development.

Tree ID	Species	Maturity	Category
T8	Common Holly	Semi-mature	C

5.4 IDENITFIED IMPACTS

5.4.1 ROOT PROTECTION AREAS

The survey process and the Tree Retention and Protection Plan (Appendix III) has indicated the extent of the theoretical Root Protection Areas (RPA) of the surveyed trees and identifies the potential impacts resulting from the proposed development. The details of the impacts are identified within table 2 below:

Table 2: Identifying development impacts.

Development Section	Tree No.	Total RPA m^2	Impact of proposed development.
Construction of replacement garden rooms	T1	55.4	The proposed garden room will cover up to a maximum 6.75m^2 of the RPA of this tree, equating up to 12.18% of the trees minimum root protection area.
Construction of replacement garden rooms	T2	40.7	The proposed garden room cover up to a maximum 5.6m^2 of the RPA of this tree, equating up to 13.76% of the trees minimum root protection area.
Construction of replacement garden rooms	T3	18.1	The proposed garden room cover up to a maximum 0.4m^2 of the RPA of this tree, equating up to 2.21% of the trees minimum root protection area.
Construction of replacement garden rooms	T4	391.3	The proposed garden room cover up to a maximum 16.75m^2 of the RPA of this tree, equating up to 4.28% of the trees minimum root protection area.
Construction of replacement garden rooms	T5	4.1	The proposed garden room cover up to a maximum 0.5m^2 of the RPA of this tree, equating up to 12.2% of the trees minimum root protection area.
Construction of replacement garden rooms	T6	13	The proposed garden room cover up to a maximum 0.66m^2 of the RPA of this tree, equating up to 5.1% of the trees minimum root protection area.
Construction of replacement garden rooms	T7	28.3	The proposed garden room cover up to a maximum 3.22m^2 of the RPA of this tree, equating up to 11.38% of the trees minimum root protection area.

5.4.2 TREE CROWNS

The survey process and the Tree Retention and Protection Plan (Appendix III) has indicated the extent of the crown spread, crown clearance and height of the surveyed trees and identifies that two trees will required some works to facilitate the development. These works are set out in table 3 below:

Table 3: Showing which require removal to facilitate the development.

Tree ID	Species	Maturity	Category	
T1	Common Mulberry	Mature	B	Undertake selective branch removal on one branch which grows over garden room area.
T2	Strawberry Tree	Semi-mature	B	Prune back to boundary.

6 TREE PROTECTION MEASURES

All trees to be retained should be protected prior to the undertaking of any construction works via the erection of protective barriers to form a construction exclusion zone (CEZ). The protective fencing should be sited along the edge of the RPA of the retained trees and be fit for the purpose of excluding construction activity.

The necessary protection measures are identified within the Tree Protection Plan attached as Appendix IV.

The barrier fencing is to be installed as per figure 3 of the BS 5837:2012 using standard 2-metre-tall by 3.5 metres wide welded mesh panels on rubber or concrete feet secured with ground pins.

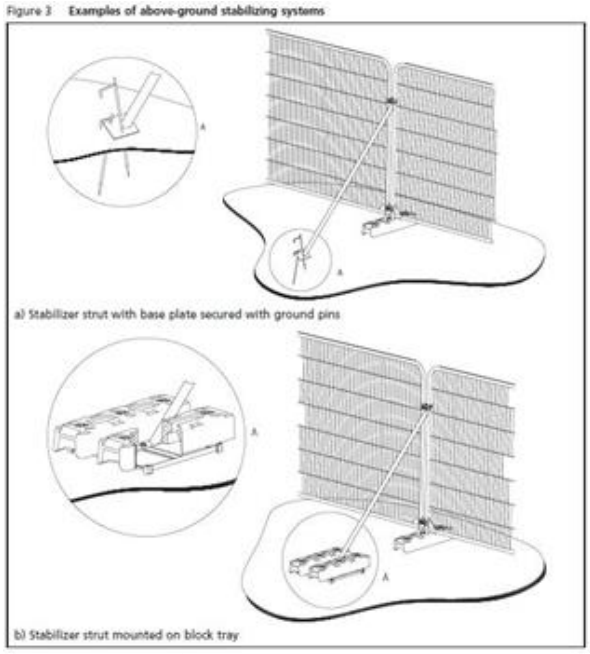


Figure 1 - Identifying tree protection fencing design.

All fencing will need to be erected prior to any construction works commencing and will remain intact until all works are completed on site. The protected area must be regarded as sacrosanct and should not be removed or altered without prior recommendation by the project arboriculturist.

6.1 TEMPORARY GROUND PROTECTION

The temporary ground protection is to be constructed using two layers of scaffold boards laid at a 90 degree angle to each other, placed on top of a compression-resistant layer (e.g. 150mm depth woodchip), laid on a geotextile membrane, for pedestrian-operated plant up to a gross weight of 2 ton gross.

7 SUMMARY

On completion of the site survey and report it is concluded that the proposed development could have an impact upon 8 individual within and adjacent to the site, out of the total 13 arboricultural features identified. These trees are as follows:

- This has identified that 1 individual category ‘C’ trees will require removal to facilitate the development. This tree is identified as T8.
- 3 individual category ‘B’ trees and 4 individual category ‘C’ trees, identified as T1, T2, T3, T4, T5, T6 and T7 can be retained. However, the proposed replacement garden studios will be formed upon the existing hard standing above the trees RPA by up to a maximum of 13.6%.

The impacts to the RPA of the retained category ‘B’ and ‘C’ trees are as a result of the proposed replacement buildings which sit on a similar footprint the existing and upon the existing hard standing and as such it is believed the impact of the proposed replacement buildings will be less than those indicated.

If the new studio buildings required new footings theses can be formed as a frame or base, supported above ground using helical piles or similar. The locations of the piles will be pre-dug to a depth of 750mm to check for any roots are present. If roots less than 25mm are found these will be carefully pruned by the project arboriculturist. If rotos greater than 25mm are found these will be retained and a new pile location formed

The advice given above is a summary of the required precautions to ensure that the proposed development can be constructed with a minimal impact to all retained trees. The exact methods of construction required in and adjacent to the RPA of retained trees and a final Tree Protection Plan should be addressed within a separate Arboricultural Method Statement.

8 GENERAL PRECAUTIONS

8.1 SITE FACILITIES

The position of the site office, compound, toilets and storage space will be sited outside of the RPA of any retained trees or within existing hard standing. Any re-siting of these during the course of the proposed development will need to be approved in writing by the Local Authority Tree Officer.

8.2 STORAGE SPACE

There will be no spoil or construction material stored within the protected sections of the RPA of the retained trees or shrubs on the site. Where possible all storage should be contained within pre-existing hard surfaces. Possible locations have been identified within the Tree Retention and Protection Plan.

8.3 PERIMETER FENCING

Works to erect perimeter fencing can have a negative impact upon retained trees. To ensure all retained trees are not impacted it is essential that all fence post holes are formed by hand and away from the base of trees. If roots are identified the hole should be relocated.

8.4 HAZARDOUS MATERIALS

No mixing or storage of materials will take place up a slope where they may leak into a CEZ.

No hazardous materials such as fuels, oils or cement will be stored within the storage area in the rear garden.

Materials which may contaminate the soil will not be discharged within 10m of any tree stem. When undertaking the mixing of materials, it is essential that any slope of the ground does not allow contaminates to run towards a tree root protection area.

8.5 TREE SURGERY WORKS

All tree works considered necessary for health and safety reasons or to facilitate the development will be undertaken in accordance with British Standard 3998 (2010) Recommendations for Tree Works.

All works required are outlined within the Tree Survey Schedule.

9 SITE PHOTOGRAPHS

Photograph 1: Showing trees T1 and limb growing over development area to left of photo.

Photograph 2: Showing tree T2 behind fence.

Photograph 3: Showing section of T4 (tight access prevented full photo of tree.

Photograph 4: Showing section of T8 (holly) to be removed with further trees behind.

APPENDIX I TREE SURVEY SCHEDULE

BS5837:2012 Tree Survey

Client: Vita Architecture
Project: 5a Parkhill Road
Survey Date: 15/11/2021
Surveyor: Paul Roberts

Connick Tree Care
New Pond Farm
Woodhatch Road
Reigate
Surrey
RH2 7QH
info@connicktreecare.co.uk

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown	Spread (m)	Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
T1												
Common or Black Mulberry *Morus nigra*	7	1	350	N	3	2	M	A: 55.4 R: 4.19	Good	C: Fair S: Fair B: Fair	Third party tree located adjacent to east boundary. Crown grows asymmetrical and over development property.	B.2 20 to 40 yrs
				E	2	2						
				S	5.5	4						
				W	3	2						
T2												
Strawberry Tree *Arbutus unedo*	5	1	300	N	3	2	SM	A: 40.7 R: 3.59	Good	C: Good S: Fair B: Fair	Third party tree located in adjacent garden. Crown encroaching on development property garden.	B.2 >40 yrs
				E	4	2						
				S	3	3						
				W	3	3						
T3												
Lawson Cypress *Chamaecyparis lawsoniana*	8	1	200	N	1.5	0.5	Y	A: 18.1 R: 2.4	Good	C: Fair S: Fair B: Fair	Located in third party tree adjacent south boundary. Ivy in upper crown.	C.2 20 to 40 yrs
				E	2	0.5						
				S	1	0.5						
				W	1.5	0.5						
T4												
Common Oak *Quercus robur*	8	1	930	N	2.9	3	M	A: 391.3 R: 11.16	Good	C: Fair S: Good B: Good	Located towards rear of the garden. Extent of tree significantly reduced historically with large wounds and decay on trunk at 4m. Remaining stem growing south over neighbouring property. Minor deadwood throughout.	C.1.2 >40 yrs
				E	4	3						
				S	5	6						
				W	4	5						

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
T5											
Leyland Cypress *X Cupressocyparis leylandii*	6	1	95	N 1.5 2 E 2 2 S 0.5 2 W 1.5 3		Y	A: 4.1 R: 1.14	Poor	C: Poor S: Fair B: Fair	Located in third party property adjacent to west boundary. Closest of three specimens which form a group. Browning in crown.	C.2 10 to 20 yrs
T6											
Common Beech *Fagus sylvatica*	11	2	170 (Eq)	N 3 5 E 3 4 S 2 4 W 3 4		Y	A: 13 R: 2.03	Good	C: Fair S: Fair B: Fair	Located in third party property to west. Twin stemmed from 1.3m.	B.1.2 >40 yrs
T7											
Common Holly *Ilex aquifolium*	4	1	250	N 0.5 2 E 3 2 S 2 2 W 0.5 2		SM	A: 28.3 R: 3	Good	C: Poor S: Ivy B: Fair	Third party specimen located on west boundary. Crown suppressed by adjacent trees and has ivy on stem.	C.2 10 to 20 yrs
T8											
Common Holly *Ilex aquifolium*	6	1	185	N 3 2 E 3 2 S 1 2 W 1 2		SM	A: 15.5 R: 2.22	Good	C: Fair S: Good B: Good	Crown suppressed on south west by adjacent trees.	C.2 >40 yrs
T9											
Bay *Laurus nobilis*	5	1	205	N 2 2 E 1.5 2 S 1 2 W 1 2		SM	A: 19 R: 2.45	Fair	C: Fair S: Fair B: Fair	Heavily reduced.	C.2 10 to 20 yrs
T10											
Smooth Japanese Maple *Acer palmatum*	5	2	100 (Eq)	N 2 2 E 2 2 S 2 2 W 0.5 3		SM	A: 4.5 R: 1.19	Good	C: Fair S: Fair B: Fair	Crown suppressed by adjacent willow.	C.2 20 to 40 yrs

Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

Tree and Tag No / Species	Hght (m)	Stems No	Stems Ø (mm)	Crown Spread (m)	Crown Clear (m)	Age	RP A (m²) R (m)	Phys Condition	Structural Condition	Preliminary Recommendations / Survey Comment	Cat ERC
T11											
Goat Willow *Salix caprea*	4.5	1	650	N 1 E 1 S 1 W 1		SM	A: 191.2 R: 7.8	Fair	C: S: Good B: Good	Recently pollarded tree. Bench seat around base.	C.2 20 to 40 yrs
T12											
Bay *Laurus nobilis*	5	2	131 (Eq)	N 1.5 E 1.5 S 1.5 W 1.5	2 2 2 2	SM	A: 7.7 R: 1.56	Good	C: Good S: Good B: Fair	Prominent specimen located in front garden.	B.2 20 to 40 yrs
T13											
Unknown - -	4	4	146 (Eq)	N 3 E 1.5 S 1.5 W 1.5	1.5 2 2 2	SM	A: 9.7 R: 1.75	Good	C: Fair S: Fair B: Fair	Buddleja davidii - Self-set specimen located in bin store area.	C.2 20 to 40 yrs

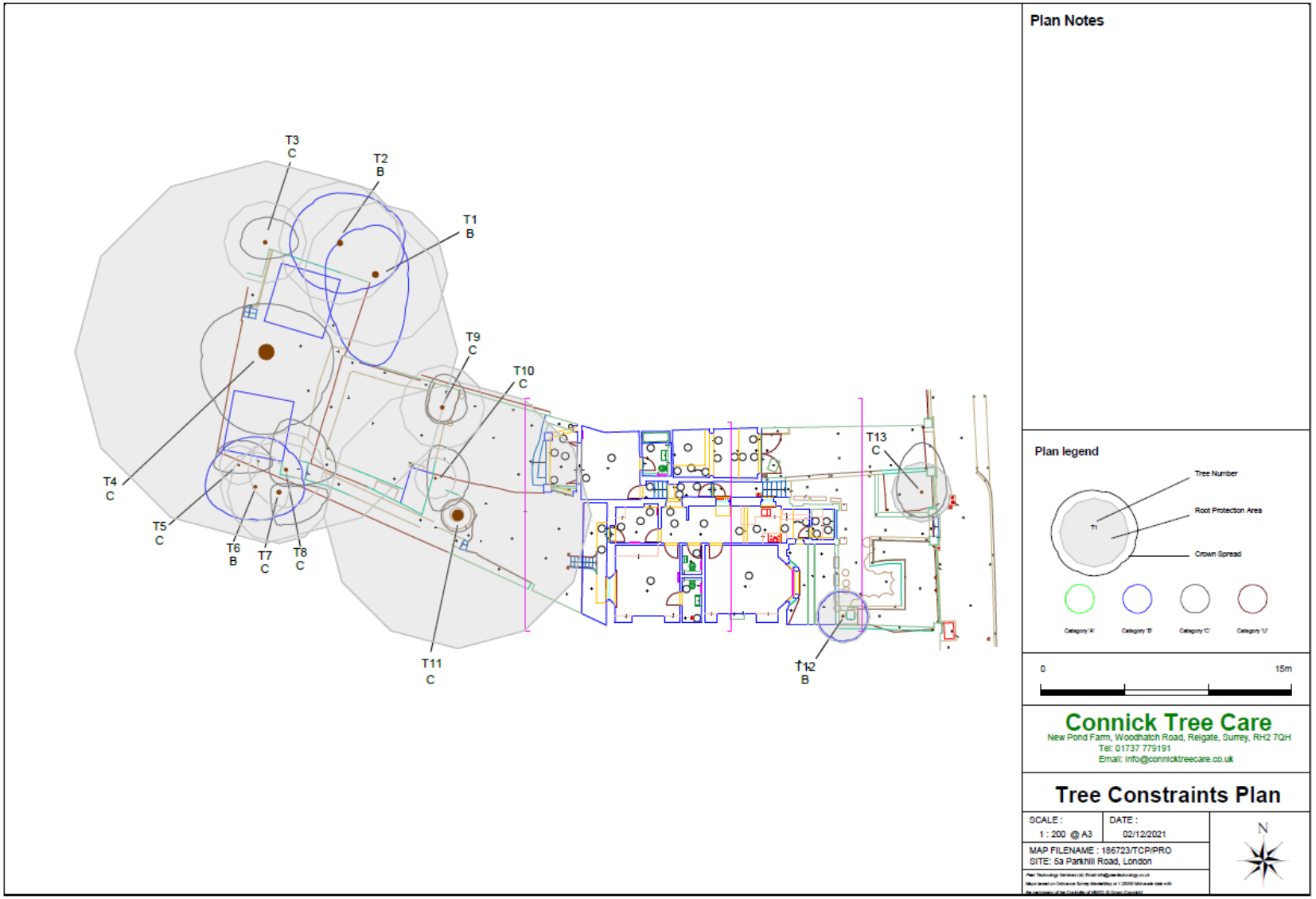
Age Classifications: N Newly planted; Y Young; SM Semi-mature; EM Early Mature; M Mature; OM Over Mature

Condition: C Crown; S Stem; B Basal area

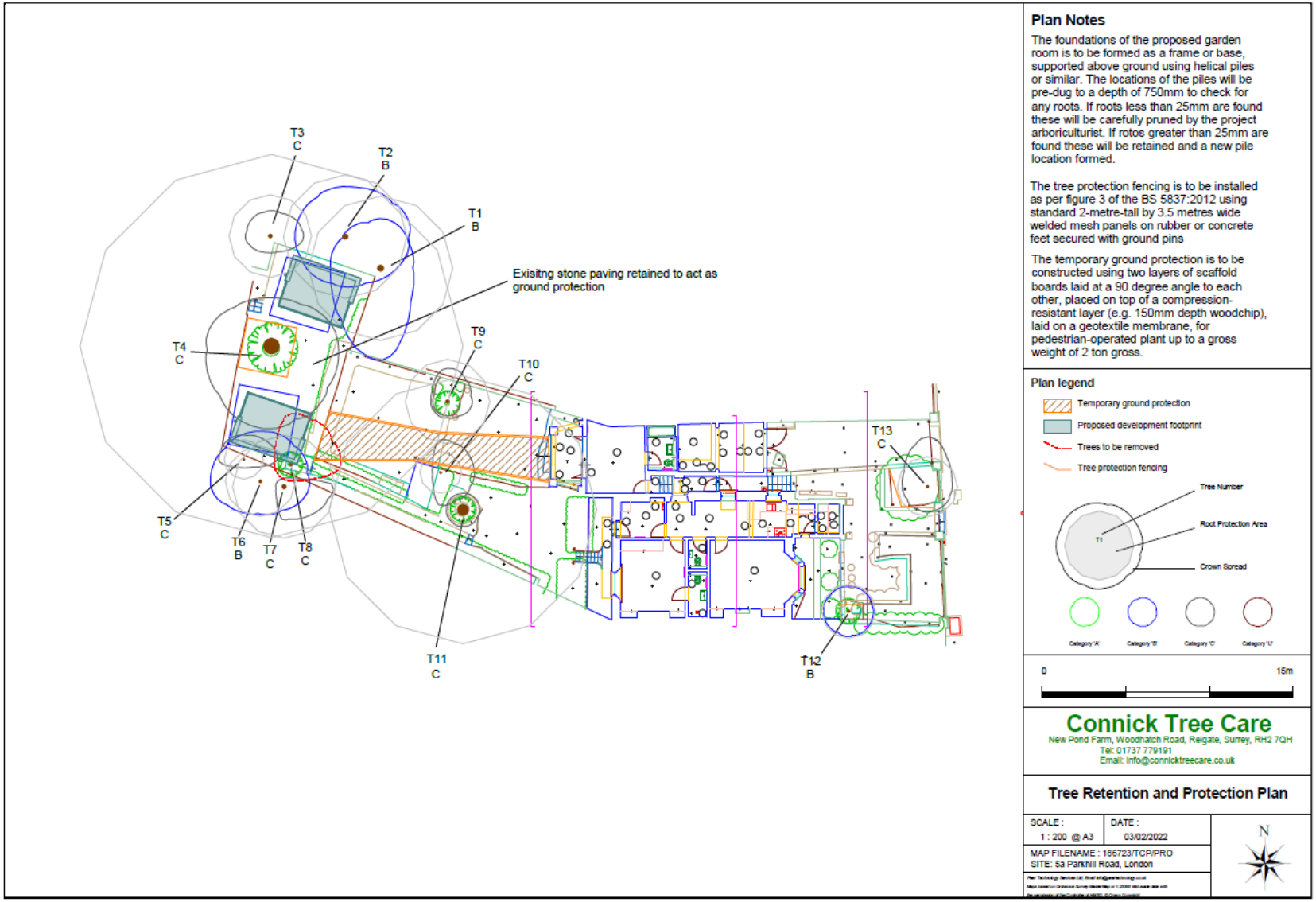
Stems: Ø Diameter; (Eq) Equivalent stem diameter using BS5837:2012 definition

ERC: Estimated Remaining Contributio

APPENDIX II TREE CONSTRAINTS PLAN



APPENDIX III TREE RETENTION AND PROTECTION PLAN



APPENDIX IV QUALIFICATIONS AND EXPERIENCE

Paul Roberts

1. QUALIFICATIONS

Subjects	Level	Dates
Foundation degree in Arboriculture (UCLAN)	Merit	September 2013 – June 16
Professional Tree Inspection Course (LANTRA)	Pass	June 2009
Arboricultural Association Technicians Certificate (ABC)	Merit	September 2006 – June 07
Royal Forestry Society's Full Certificate in Arboriculture	Merit	September 2005 – June 06

2. CAREER SUMMARY

I first started my career in the arboricultural industry in 2000 work for a commercial contracting company, here I worked for 6 years and was involved in tree felling, pruning and planting on a daily basis. During this time I obtained NPTC units for use of chainsaws on the ground and in the tree and for aerial rescue.

On successful completion of the Arboricultural Association Technicians Certificate in June 2007 I decided to progress my career away from the practical side to arboricultural consultancy at Jacobs Ltd. While working for Jacobs Ltd I gained valuable experience in all aspects of arboricultural consultancy including management of large tree stocks, tree condition assessment and trees in relation to developments. My time at Jacobs also saw me work as discipline lead for clients which required close liaison with Ecologist's, Engineers and Contractors to ensure pragmatic solutions were reached with all parties' to ensure successful project delivery.

In 2011 I made the transition from private consultancy to local authority where I spent 2 and a half years working for the London Borough of Hackney as an Arboricultural Officer. During this time, I began the foundation degree in Arboriculture through Myerscough College which I completed in June 2016.

I joined Connick Tree Care in June 2014, where I now work as the Senior Arboricultural Consultant.

3. AREAS OF EXPERTISE

Tree hazard risk assessments for tree owners
Decay assessment and mapping
Pre-development site surveys and arboricultural implication studies
Tree management reports to prioritise maintenance programs
Tree related insurance claims
Diagnosis of tree disorders
General arboricultural advice