Trees and Construction

BS5837:2012 Tree Survey, Arboricultural Implications Assessment & Method Statement

Site: 43 Countess Road, London NW5 2XH

Ref: 20082/A2_AIA

Client: Nick Bastian

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Arboricultural Consultant (Author):
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- Feb 2020 -

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Revision	Description	Date
/	BS5837 tree survey & baseline advice	02/2020
/A2_AIA	Formal scheme review & report release	17/02/2020

1. INTRODUCTION

1.1 **Instruction:** This advice has been prepared for ick Bastian (hereafter; client) and is in respect of the tree related planning considerations at the 43 Countess Road, London, NW5 2XH (hereafter; site).

As the proposal relates to development works at site, the advice herein is produced in accordance with the British Standard 5837 : 2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations'* (hereafter; BS5837).

1.2 **BS5837:** The scope of BS5837 is to provide guidance on how trees and other vegetation can be integrated into construction and development design schemes. The overall aim is to ensure the protection of amenity by trees which are appropriate for retention.

1.3 **Scope of this advice:** This advice has been produced in accordance with BS5837 and is intended to demonstrate the site's realistic arboricultural constraints and assist with the design process. The objective is to systematically assess and provide suitable recommendations regarding the proposal's potential impact on trees and vice versa.

1.4 Following instruction the consultant surveyed the site on the 28th Sept 2020 where a site walkover and BS5837 tree survey were carried out; all trees on site and around the application boundary were surveyed from ground level and plotted as either an individual or a tree group.

1.5 This advice is subject to caveat at Appendix I, outlines relevant terms and definitions at Appendix II and constitutes the findings of the preliminary site assessment and associated arboricultural recommendations.

1.6 The survey data and site observations use the supplied topographical survey to illustrate the surveyed trees in plan format as a 'Tree Constraints Plan' (hereafter; TCP); the TCP and the tree survey data table are at Appendix III. The TCP now has an overlay of the proposed scheme to enable review, to inform this assessment and is used as a base layer for the 'Tree Protection Plan' (hereafter; TPP); the TCP, tree survey data table and TPP are at Appendix III.

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2. SITE INFORMATION & TREE ASSESSMENT

2.1 The site is a terraced property with small front garden which is accessed from Countess Road. To the rear of the dwelling is a larger linear garden accessed from the rear of the property. The site is adjoined and abutted by similar properties.

2.2 **Proposal:** At the time of writing a scheme based on plan drawings 200 rev A has been submitted and approved on 7th Jan 2020 by Camden Council. This is subject to condition 4 which requires the impact on trees on and off site to be considered as per BS 5837 2012.

The client's proposal is for the demolition of the existing rear extension and erection of a single storey rear side infill extension and excavation of a small area of rear garden.

2.3 The site requires consideration from an arboricultural perspective due to the presence of trees on and around the site; these were included on the supplied topographical plans and are either on site and/or are deemed to be within impacting distance of the existing buildings, accesses and/or the potential construction area.

2.4 <u>The trees</u> -

2.4.1 The tree survey and assessment resulted in the BS5837 quality/retention categories of 'B - moderate' and 'C - low' being attributed to trees/tree groups; it is also worth noting that the BS5837 circular RPAs are considered to halt at the extents of existing property.

2.4.2 There are established features of the most dominant of which are the 'B' class trees offsite to the eastern boundary T2, T3 and T4. Other off site trees to the east are T5 a 'C' class with the appearance of low vigour. To the front of the site is T1 which is a further 'B' class tree

2.4.3 No council search/contact has been requested and hence confirmation as to whether any tree is protected by Tree Preservation Order was unavailable at the time of writing this advice– please advise if this detail is at your disposal and/or confirm whether a conservation area and TPO check is to be made on your behalf as part of this advice.

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3. FINDINGS & RECOMMENDATIONS

3.1 The following information, as with the prior contents of this report, should be read with the appended tree data table and tree constraints plan and scheme overlay (20082/TCP/01); this information is included here as an objective overview of the arboricultural constraints and considerations, and reflects the basis of the initial tree survey advice.

3.2 The overview it supplemented with comments in review of the proposed scheme where relevant as '*NOTE*', and is followed by the corresponding Arboricultural Method Statement 'considerations' (section 4).

3.3 General Considerations for Tree Retention / Removal

3.3.1 T1 the only on-site tree of note is situated at the front of the property. As no work is anticipated at the front minor protection is required to prevent damage to the stem and prevent storage of materials.

3.3.2 The remining trees are off site to the rear the scheme overlay shows that the proposed works are well away from the RPA's of these trees and that protective temporary fencing and avoidance will suffice to protect these trees.

3.3.3 T1 will require some stem protection to prevent accidental damage while deliveries etc. are undertaken during the build. An example is given on the TPP attached to this document. These must be free-standing and not attached at any point to the tree. They must be fit for the purpose of preventing impact damage to the tree if struck by a vehicle or machinery

3.4 Tree Protection

3.4.1 The process of site operations will be an important aspect to confirm by way of a construction layout plan, i.e. showing storage areas, parking, delivery area, access routes etc., all outside of RPAs or with a provision for ground protection.

3.4.2 As a basis for tree protection the following points will need to be considered:

- Induction of construction personnel regarding the exclusion of works (including access and storage) from the retained trees' RPAs;
- Prior to works commencing, secure temporary barrier fencing to exclude the retained tree's crowns and RPAs from the working site;
- The storage of materials clear of all retained trees and conditions to ensure no contamination/run-off into soils in proximity to trees or on higher ground;

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- Scaffolded construction access around the building footprint to provide ground protection for retained trees' RPAs;
- For any access within RPAs prior to sensitive and approved RPA landscape works, to have ground protection installed,
- For any approved landscape works within RPAs, to follow the approved landscape scheme and subject specification with approved cross sections.

3.5 Tree Works

3.5.1 No tree work is envisaged other than removing the shrubby growth from the interior of the garden as per the 'Scheme Overlay'

TREE WORK SUMMARY

NUMBER	TREE REMOVALS / PRUNING WORKS	
n/a	Garden Shrubs	Remove for development
Retained trees		Protection by placement of fixed Heras panels around the crown / RPA extents to have no access during construction.

3.6 Further to the above, the tree protection methods which are considered necessary and achievable as part of the proposed scheme for the surveyed trees are outlined as the AMS at s.4; these are intended to demonstrate that the proposed scheme is reviewed and considered in line with the recommendations of BS5837.

4. METHOD STATEMENT 'CONSIDERATIONS'

4.1 Arboricultural Construction Restrictions

4.1.1 The following restrictions are considered relevant for tree protection purposes which are illustrated on the appended Tree Protection Plan (hereafter; TPP):

a) Tree works are to be completed prior to any and all site works: no tree works not specified within this AIA (or leaning against or attaching of objects to a tree) are permitted unless agreed in writing by the council (subject to standard exemptions).

b) If a site compound is possible it is to be set up around the construction extents, thus excluding the surveyed trees as per the TPP, or a supplementary section of Protective Barrier Fencing (hereafter; PBF) is to be installed aligned as per the TPP with annotated clearances for construction access, i.e. 2.0m+ clearance from the new build footprint (to exclude retained tree crowns and RPAs, immediately after tree works and prior to site works).

c) Following the installation of PBF the fenced off section is to act as a Construction Exclusion Zone (hereafter; CEZ).

d) No chemicals/materials are to be transported/stored/used/mixed within the CEZ.

e) No fires are to be lit and no machinery, plant or vehicles are to be washed down within 10m of the tree's canopy or in a CEZ.

f) During construction processes the RPA/CEZ may not be breached, i.e. no surfacing works, without the prior advice of the consultant and the consent of the council.

g) No mechanical digging or scraping is permitted within a RPA/CEZ.

h) The protective barrier fencing may be temporarily moved to allow pedestrian access for approved sensitive hard landscape works within RPAs, i.e. Cellweb / Geoweb.

i) Only following construction completion can protective barrier fencing be removed and any remaining soft landscape works undertaken within the CEZ (ground levels to be retained within the CEZ and works undertaken manually with non driven machinery).

4.2 Arboricultural Site Monitoring / Supervision

4.2.1 The council will typically request *'a scheme of supervision for the arboricultural protection measures'* which is considered necessary to confirm tree protection and adherence to approved working methods for trees.

4.2.2 The appointed site contractor and/or project manager will be provided with this AMS and the TPP and will be briefed as to the prohibited works and tree protection.

4.2.3 A record of each site visit will be kept and a summary letter drafted for the client, the site manager and the local authority (to be sent to the client for distribution), thus -

- (1) ***Pre-commencement*** to confirm the approved tree works, site hoarding / tree protection fence alignment and construction restrictions for tree protection;
- (2) ***Half way*** through the programme to confirm maintained tree protection, no tree damage and exclusion of RPA access;
- (3) ***After-construction*** to confirm construction completion, protection of surveyed trees, and discuss tree protection requirements with the landscape team; and
- (4) ***Development completion*** after all hard landscape works and tree and shrub planting is complete to sign off the site as having adhere to the AMS.

4.3 <u>Protective Barrier Fencing (PBF) Specification</u>

4.3.1 Barrier fencing is to be installed (and signed off by way of arboricultural supervision) prior to any site works, material delivery or construction commencing. It is illustrated on the Tree Protection Plan (TPP) to ease installation and is to remain for the entire duration of construction processes unless otherwise agreed in writing by the council.

4.3.2 The PBF is to consist of a series of Heras panels secured in place by driven scaffold posts or a scaffold frame to ensure that the fencing lines are well braced to resist impact and prevent access to the RPAs of retained trees as the CEZ.

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4.4 Underground utilities

4.4.1 No detailed underground utility plan is available at this stage. Although, it is assumed that the connectivity to the existing roadside.

4.4.2 For connectivity, and any additional utility connections, rainwater pipes, or services within the RPAs on site, the excavation and installation methods will:

- Be undertaken after vegetation clearance, tree works, and after PBF is installed;
- Follow an approved plan showing the type, width and depth of necessary utility installations, and confirm works as manual installation with tree root protection;
- Be undertaken after the setting out of the approved scheme footprint;
- Have a manual excavation undertaken under Arboricultural Supervision to identify roots larger than 25mm diameter and smaller clumps of roots; and
- The approved utilities will be laid over and under roots and trenches backfilled.

4.5 Landscape Detail

4.5.1 No illustrative landscaping plan has been provided as no trees are to be removed because of the scheme. It is therefore assumed that there is no formal requirement to provide one.

4.6 Report Handling

4.6.1 This report is produced to demonstrate that the scheme is considered and reviewed in respect of the arboricultural constraints and is achievable in line with the guidance of BS5837. The recommendations herein can be approved by the council as a means of authorised tree protection of which the planning team are to have access to a copy.

4.6.2 This report is released to the client and architect to be distributed at their discretion. The consultant is available for any queries relating to this report and/or trees.

This concludes our advice.

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Appendix I

Caveat

Any and all information supplied to Indigo Surveys Ltd by/on behalf of the client is assumed to be accurate unless otherwise informed. | This advice is limited to the observations made on the date of inspection as detailed herein and any deletion, editing or alteration will result in the advice being null and void in its entirety. | This advice in its entirety may be deemed null and void if remedial works are undertaken on any area of the site, on or after the date of the survey. | No liability is assumed by the author or by Indigo Surveys Ltd for any misuse, misinterpretation or misrepresentation of this advice. | This advice is not valid in adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events. | No responsibility is assumed either by the author of this advice or by Indigo Surveys Ltd for any legal matters that may arise as a consequence. | Neither the author nor Indigo Surveys Ltd will be required to attend court or give testimony as part of this agreement. | The responsibility for any works undertaken on the basis of the recommendations of this advice does not form part of this agreement.

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Appendix II

Terms and Definitions

"Arboriculturist" - person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction.

"Competent Person" - person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.

"Topographical survey" - an accurately measured land survey undertaken to show all relevant existing site features. *A method of carrying out topographical surveys is given in RICS specification* Surveys of land buildings and utility services at scales of 1:500 and larger.

"BS5837 Tree survey" - should be undertaken by an arboriculturist to record information about the trees on or adjacent to a site. The results of the tree survey, including material constraints arising from existing trees that merit retention, should be used (along with any other relevant baseline data) to inform feasibility studies and design options. For this reason, the tree survey should be completed and made available to designers prior to and/or independently of any specific proposals for development.

"Tree categorisation method" - trees should be categorised in accordance with the BS5837 cascade chart by an arboriculturist. This is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.

"Root protection area (RPA)" - layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority, shown as an arboricultural constraint in m^2. The radius is calculated using the BS5837 calculation method. An arboriculturist may change the shape of an RPA but not reduce its area.

"Arboricultural implications assessment" - a study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

"Arboricultural method statement" - methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.

"Tree protection plan" - a scale drawing, informed by descriptive text where necessary, based upon the finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.

Appendix III

Data Table:	As appended (BS5837 Tree Survey Key & Table)
Tree Constraints Plan: (TCP / Scheme Overlay)	As appended (20082/TCP/01)
Tree Protection Plan: (Application Stage)	As appended (20082/TPP/01)

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TREE SURVEY IN ACCORDANCE WITH BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'

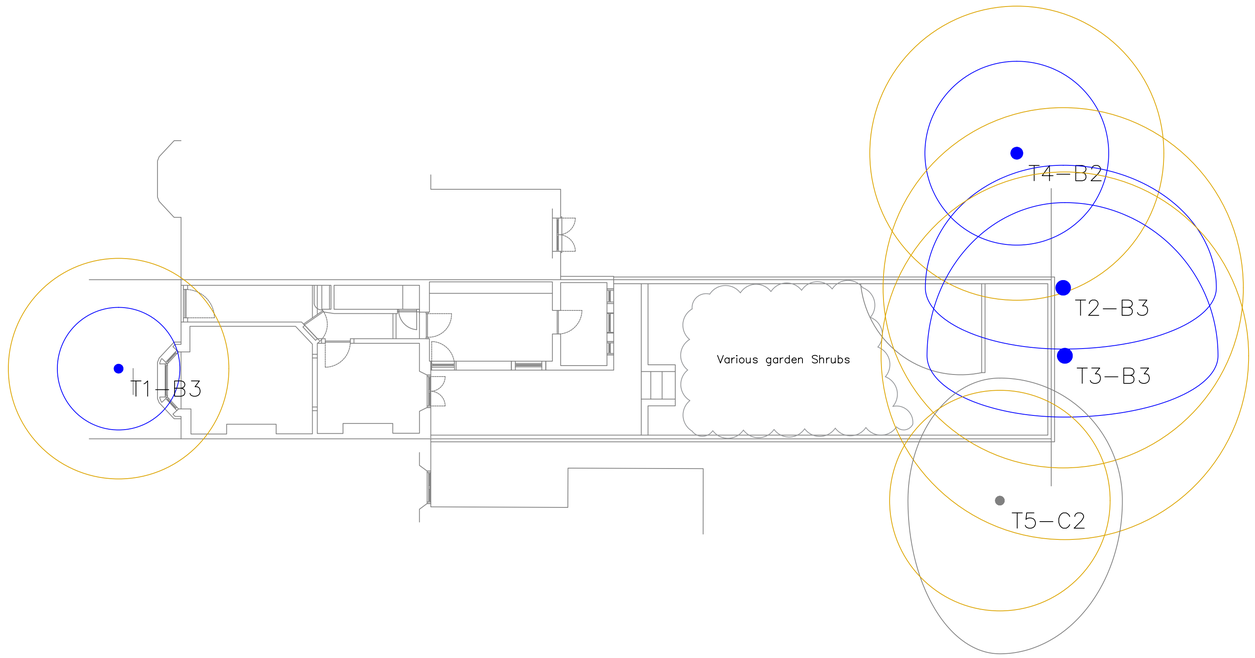
CLIENT: Nick Bastion ***PROJECT REF:*** 20082 ***SITE:*** 43 Countess Road, London, NW5 2XH

CONTACT: / ***SURVEY DATE:*** 30 January 2020 ***ARB CONSULTANT:*** Rod Benzies *ND Arb, BSc Forestry, MArborA*

TREE REF. #	SPECIES	AGE	HEIGHT (in m)	CANOPY (in m) N	S	E	W	STEM (in mm)	RPA (in m)	CLEARANCE (in m)	1st BRANCH (in m)	VITALITY	LIFE EXPEC.	NOTES	BS CAT.		MANAGEMENT
T1	*European Lime, Tilia europaea,Tiliaceae*	EM	12	2	2	2	2	300	3.6	2	2.5	Low	20-40	Lime hedgehog/epicormics at base. Tree has been polarded at various points in its history there appears to be decay in some pollard points. The crown appears to have had a 50% reduction. The tree appears low in vigour. The tree is set in a low level brick planter which has been displaced	B/C	2	
T2	*European Lime, Tilia europaea,Tiliaceae*	M	12	5	4.5	2	4	490	5.9	4.5	2.5	Norm	20-40	Situated in neighbouring property behind a wall. Some dimension estimates due to access. The tree has been topped at 8m and crown reduced by 40%. The boundary wall to which it abutts is displaced. Site level difference 0.5m higher.	B	2	
T3	*European Lime, Tilia europaea,Tiliaceae*	M	12	5	4.5	5	3	500	6.0	4.5	2.5	Norm	20-40	as T2	B	2	
T4	*European Lime, Tilia europaea,Tiliaceae*	M	12	3	3	3	3	400	4.8	2	2	Norm	20-40	No access estimated dimension. Ivy on the stem	B	2	

T5	*Cherry, Prunus (spps) Rosaceae*	M	9	4	5	4	3	300	3.6	2	2	Norm	20-40	No access estimated dimension.	C	2	

TREE SURVEY 'KEY' - BRITISH STANDARD 5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION & CONSTRUCTION - RECOMMENDATIONS'		
TPO/CA	-	On client request: presence of Tree Preservation Orders (TPO) / site location within a Conservation Area (CA) & date checked;
TREE REF. #	-	Tree reference number: tag or plan number (T - individual tree, G - group of trees/shrubs, H - hedge);
SPECIES	-	Genus, species and/or common name;
AGE	-	Age classification (NP - new planting, Y - young, EM - Early-Mature, SM - semi mature, M - mature, LM - late mature, OM - over mature);
HEIGHT (in m)	-	Approximate height of tree in metres;
CANOPY (in m) N - S - E - W	-	Approximate branch spread in metres of the four principal compass points;
STEM (in mm)	-	Stem diameter in millimetres: measured in accordance with s.4.6 of BS5837;
RPA (in m)	-	Circle radius of the Root Protection Area: calculated using the stem diameter (single/multiple stem variant, as outlined within BS5837);
CLEARANCE (in m)	-	Crown clearance in metres above the adjacent ground level;
IST BRANCH (in m)	-	Clearance in metres to first significant branch and direction of growth (where relevant);
VITALITY	-	Physiological condition typically gauged from canopy cover and annual extension growth (good, fair, poor, dead);
ESTIMATED REMAINING CONTRIBUTION	-	Approximate number of years a tree will continue to contribute without the need for oppressive arboricultural intervention, categorised in years as <10, 10-20, 20-40 and >40;
NOTES	-	Structural and physiological condition observations;
BS CAT.	-	BS5837 tree quality assessment category: resulting from structural/physiological condition and remaining contribution (approximate useful life expectancy);
	-	Standard retention category **U**: in such a condition that any existing value would be lost within 10 years;
	-	Standard retention category **A**: high quality and value, in such a condition as to be able to make substantial contribution of 40+ years;
	-	Standard retention category **B**: moderate quality and value, in such a condition as to make a significant contribution of 20+ years;
	-	Standard retention category **C**: low quality and value, currently in adequate condition to remain until new planting could be established 10+ years;
	-	Standard retention sub-category, mainly due to: **1**- Arboricultural values, **2**- Landscape values, **3**- Cultural values, including conservation;
MANAGEMENT	-	Preliminary management recommendations (as appropriate);
' * '	-	Within the survey schedule denotes an estimate



KEY

- Tree Crown Spread
- Root Protection Area (RPA)
- Tree Stem
- T1 Tree No.
- Removed Tree

Tree Condition Category

- A
- B
- C
- U

The surveyed trees are illustrated on this Constraints Plan which is prepared in accordance with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'

Indicative

DO NOT SCALE FROM DRAWING

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REV.	DESCRIPTION	DWN	CHK'D	DATE

CLIENT

Nick Bastian Foundation

PROJECT

20082/A1
43 Countess Road
London, NW5 2XH

TITLE

Tree Constraints Plan

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	03/02/2020	AT	03/02/2020			1–100

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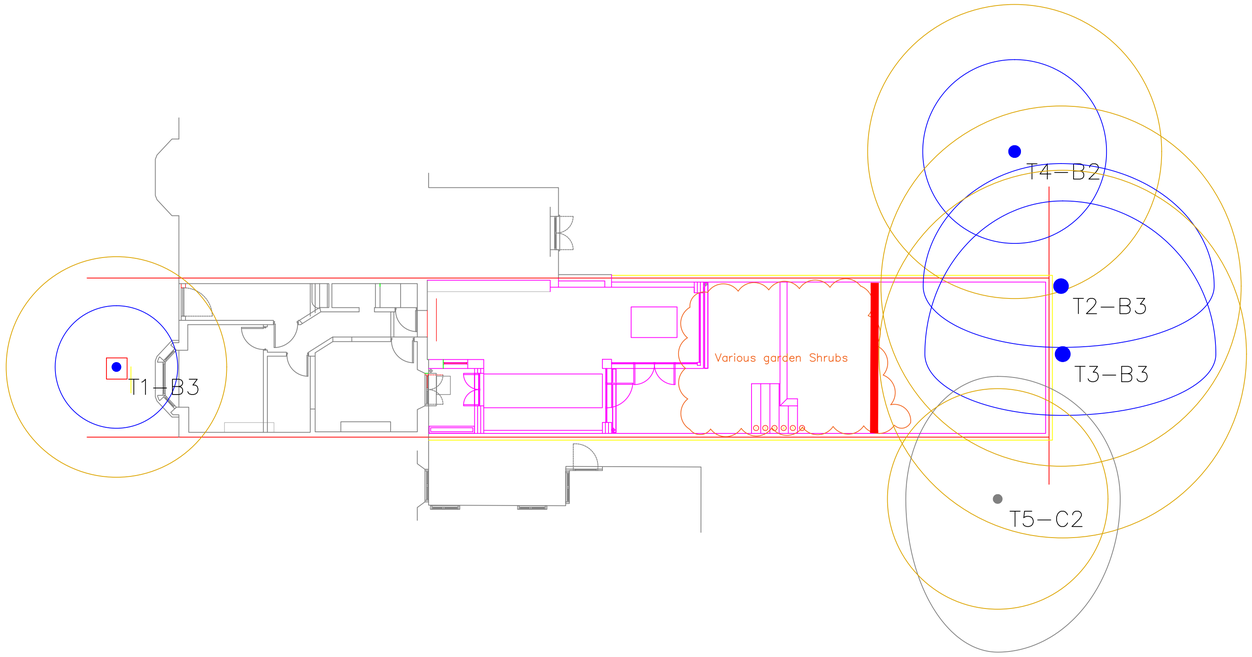
Drawing Number A1

20082/A1/TCP/01 REV.



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CLIENT
Nick Bastian Foundation

PROJECT
20082/A1
43 Countess Road
London, NW5 2XH

TITLE
Tree Constraints Plan
Scheme Overlay

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	03/02/2020	AT	03/02/2020			1–100

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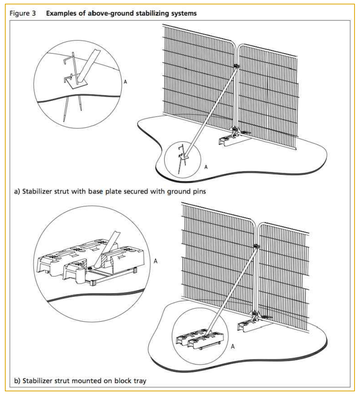
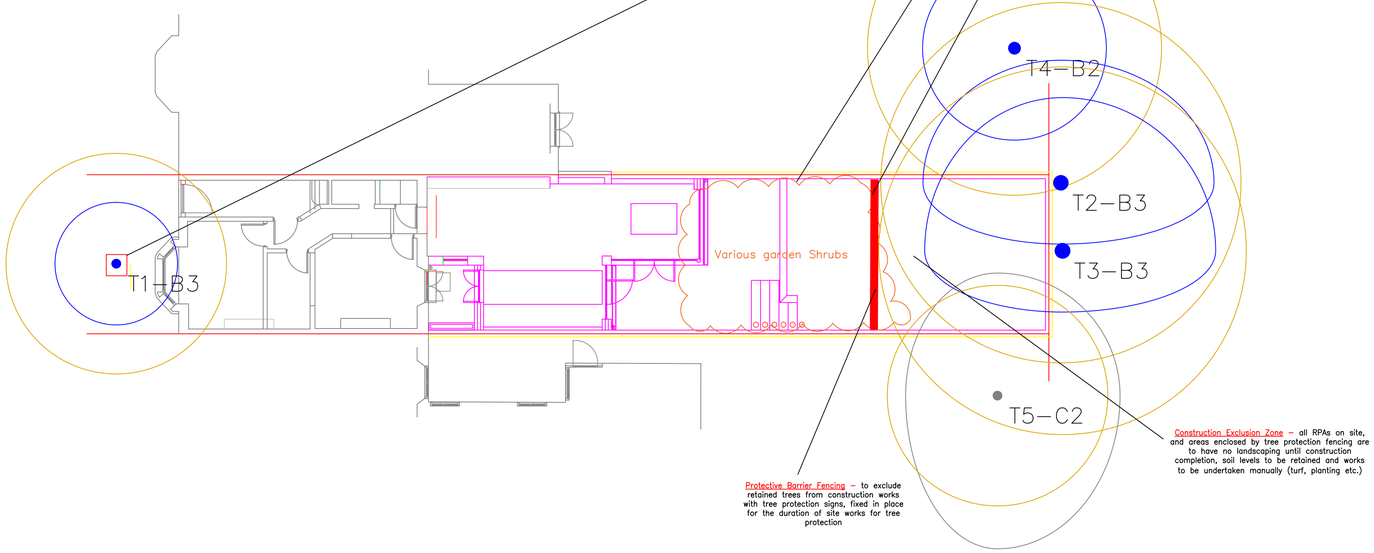
Drawing Number
Tree Constraints Plan A1
20082/A1/TCP/01 REV.





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43 Countess Road
London, NW5 2XH

TITLE
Tree Constraints Plan
Scheme Overlay

DWN	DATE	CHK'D	DATE	APP'D	DATE	SCALE
RPHB	03/02/2020	AT	03/02/2020			1–100

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Tree Constraints Plan A1

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