



Arboricultural Method Statement

BS5837:2012

**Trees in relation to design, demolition and construction –
Recommendations**

103 Priory Road,
London,
NW6 3NN

6 July 2016

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Table of Contents

If this report has been released electronically the appendices referred to herein can be found in the annexed zip folder/s as .pdf or .dwg files. If this report has been released in hard copy the appendices will be bound into the back of this report.

Executive Summary.....	3
General Information.....	4
Tree Survey.....	5
Arboricultural Impact Assessment.....	6
Arboricultural Method Statement.....	7
Accidents and emergencies involving trees	7
Phasing of tree protection measures	7
Protective Measures.....	8
Site management.....	11
Prohibition.....	12
Construction	13
Landscaping.....	14
Services.....	15
Monitoring and Supervision	16
Appendix 1 - Contact Details	17
Document Production Record	18

Executive Summary

This report describes the extent and effect of the proposed development at 103 Priory Road on individual trees and groups of trees within and adjacent to the site.

Trees within the site were surveyed; using a methodology guided by British Standard 5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations’.

Subsequently, this report has been produced, balancing the layout of the proposed development against the competing needs of trees. This report comprises all of the requisite elements of an arboricultural implications assessment, method statement and supporting plans.

Checklist for Submission to Local Planning Authority

Tree survey	<input checked="" type="checkbox"/>
Tree constraints plan	<input checked="" type="checkbox"/>
Arboricultural impact assessment	<input checked="" type="checkbox"/>
Arboricultural method statement	<input checked="" type="checkbox"/>
Tree protection plan	<input checked="" type="checkbox"/>

This report and its appendices follow precisely the strategy for arboricultural appraisal intended to provide local planning authorities with evidence that trees have been properly considered throughout the development process.

It is the conclusion of this report that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the site will not be adversely affected as a result of the local planning authority consenting to the proposed development. It is considered that any issues raised in this report, or beyond the scope of it can be dealt with by planning conditions.

General Information

Client: Mr Tanek Amin c/o PM Architects

Site: 103 Priory Road, London, NW6 3NN

Brief proposal description: Construction of single storey extension to existing residential property.

Documents referred to:

Document	Reference
Topographical survey drawing	6121 110
Proposed layout drawing	103 BR FLAT2 160530
Landscape master plan drawing	N/A
LPA pre-app comments	N/A
British Standard 5837:2012	Trees in relation to design, demolition and construction – Recommendations’
Arboricultural Impact Assessment	BS5837 – 103 Priory Road - Arbtech AIA 01
Tree Protection Plan	BS5837 – 103 Priory Road - Arbtech TPP 01

Tree Survey

Survey: An arboricultural survey to BS5837 of all trees within impacting distance of the site was undertaken by David Garrick of Arbtech Consulting on 23rd June 2016.

Limitations: The tree survey was made at ground level using visual observation only. Detailed examinations, such as climbing inspections and decay detection equipment were not employed, though may form part of the survey's management recommendations. Measurements were taken using specialist tapes, laser and GPS devices. Where this was not possible, measurements are estimated.

Scope: Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (*i.e. not in relation to the proposed development*).

* For more information on the surveyed trees please see Arbtech Consulting Ltd, Tree Survey Schedule, Tree Survey Report and Tree Constraints Plan.

Arboricultural Impact Assessment

There are a number of issues that may need to be addressed in an arboricultural impact assessment between the trees and the proposed development, these are as follows –

- The effect and extent of the proposed development within the root protection areas (RPAs) of retained trees;
- The potential conflicts of the proposed development with canopies of retained trees; and
- The likelihood of any future remedial works to retained trees beyond which would have been scheduled as a part of usual management.

These impacts can be seen on the Arboricultural Impact Assessment drawing no. BS5837 – 103 Priory Road - Arbtech AIA 01.

Trees to be removed

The proposal does not require the removal of any trees nor any other tree works.

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Arboricultural Method Statement

Details of key site personnel, including site / project manager will be submitted to the Council's Tree Officer prior to the commencement of site works.

This method statement is to be approved and agreed to in writing by all key personnel prior to the commencement of site works.

No site personnel are to be present and no demolition, site clearance, building work or delivery of materials is to occur until the protective measures are in accordance with this method statement and the Tree Protection Plan drawing no. BS5837 – 103 Priory Road - Arbtech TPP 01.

Protective measures should be in accordance with this method statement and the Tree Protection Plan; drawing no. BS5837 – 103 Priory Road - Arbtech TPP 01 will remain unaltered and in situ, unless otherwise specified, for the entire duration of the construction.

Accidents and emergencies involving trees

Any accidents and emergencies involving trees shall be immediately reported to Arbtech who shall report the issue to the LPA and submit a solution to the LPA for agreement.

Phasing of tree protection measures

The tree protection measures shall be phased as follows.

- a) Undertake tree works
- b) Install the protective measures in accordance with the approved protection plans and this method statement
- c) Undertake demolition works
- d) Undertake and complete construction works
- e) Undertake external landscape works to areas outside of construction exclusion zones
- f) Remove protective measures
- g) Undertake external landscaping works within the construction exclusion zones
- h) Sign off from the company as no further involvement is required

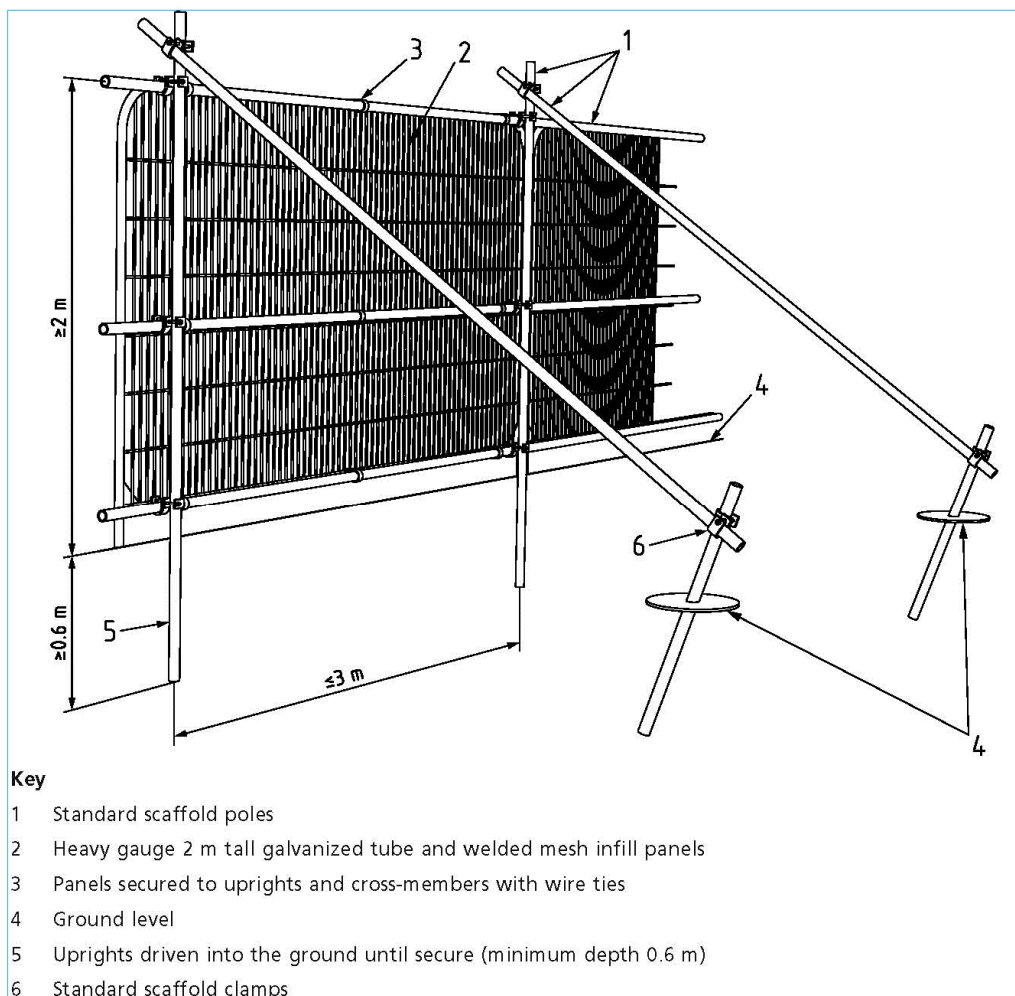
Protective Measures

Protective measures are to be installed immediately following the completion of the tree works, and are to be sited and aligned in accordance with the tree protection plan (BS5837 – 103 Priory Road - Arbtech TPP 01).

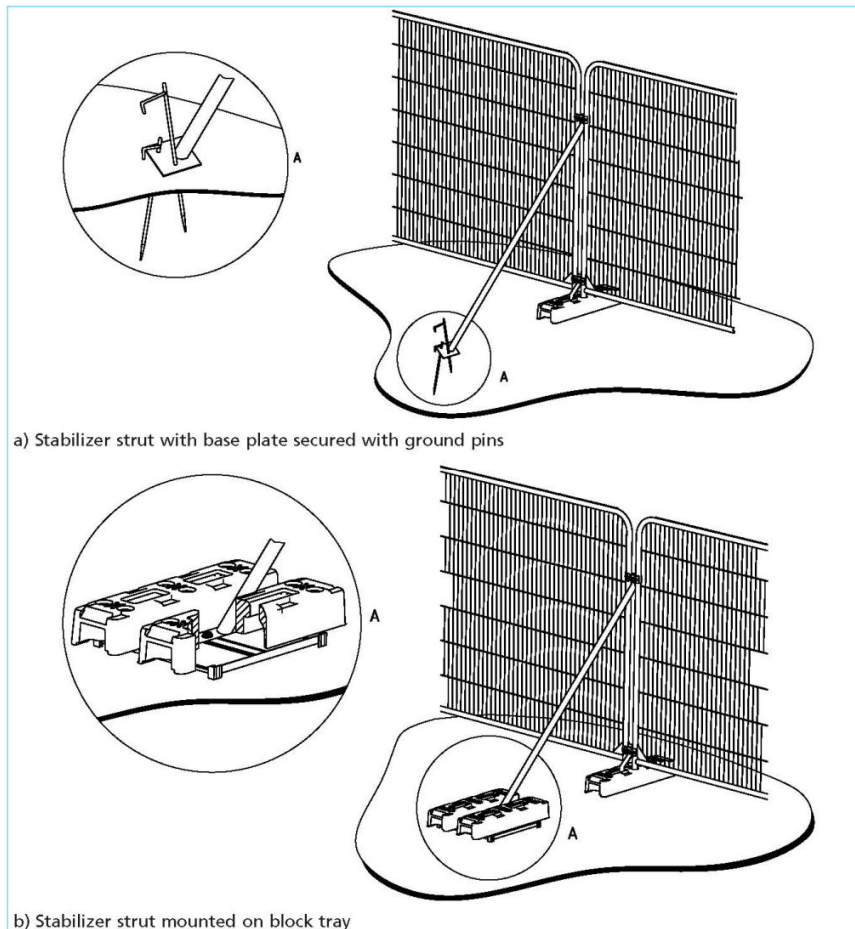
Protective Barrier Fencing – See BS5837 – 103 Priory Road – Arbtech TPP 01 for location of protective fencing

Protective barrier fencing should be appropriate for the intensity and proximity of the development to protect trees where development activity is in close proximity.

Default specification: To comprise either 2.4m wooden site hoarding; or a 2.3m high scaffold framework, well braced to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals and driven into the ground by a minimum of 600mm. On o this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two scaffold clamps and to the scaffold frame work with wire.



Secondary specification: To comprise of 2m tall welded mesh panels on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stabiliser struts, which should be attached to a base plate and secured with ground pins.



Signage denoting the words “*tree protection area*” at 5.0m intervals should be fixed to the protective barrier fencing (See Appended file).

Protective fencing is to be removed **ONLY** with the written permission of the arboricultural consultant and approval of the local planning authority (LPA).

Ground boarding protection for trees – See BS5837 – 103 Priory Road – TPP 01 for location of protective ground boarding

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

Note. All ground boarding is to be designed / approved by the project engineer to make sure they provide adequate protection from any expected including:

- a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane;
- b) for pedestrian-operated plant up to a gross weight of 2t, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;
- c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary system or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

Site management

The site manager will be responsible for briefing / inducting all personnel who will be working on any stage of this development and especially those who will be working within or adjacent to canopies or RPAs of retained trees; and will make them aware of, and provide a copy of this this method statement and tree protection plan drawing no. Arbtech TPP 01; this is to include but not exclusively of the movement / operation of plant, excavations, unloading deliveries, mixing / pouring cement and concrete.

The site manager will be responsible for the day to day running and protection of all retained trees and for liaising with the project arborist about any tree related matters and prior to any works that may or will affect the RPAs or canopies of retained trees; this is to include but not exclusively of the movement / operation of plant, excavations, unloading deliveries, mixing, pouring and storage of all caustic materials that may cause harm to retained trees.

Any incidents of damage to retained trees or of tree protection measures will be documented by the site manager who will then report these incidents to the project arborist immediately and make sure that works within this area cease until the project arborist has had an opportunity to inspect the damage and where appropriate, agree a mitigation plan with the local planning authority tree officer.

The site manager may designate another person to take charge of briefing / inducting new site personnel or visitors in his absence.

If the site manager is replaced or is absent from site for more than five working days the project arborist will be informed and a pre start meeting will be held with the new / acting site manager.

It is the responsibility of the site manager to ensure that the planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime and supervision of any works within or adjacent to the RPAs are adopted.

If at any time pruning works are required other than those previously approved, permission must be sought from the LPA tree officer and once permission is granted they are to be carried out by a suitably qualified person in accordance with BS3998:2010 Tree work – Recommendations.

Prohibition

- Mechanical digging or scraping is not permitted within a defined root protection area or within areas cordoned off by protective barrier fencing.
- No access will be permitted within the protected areas;
- No materials, equipment or debris will be stored within any of the fenced areas, or against the fencing;
- Fires are not permitted within 5.0m of any vegetation.
- Leaning objects against or attaching of objects to a tree is not permitted.
- Machinery, plant and vehicles are not permitted to be washed down within 10.0m of vegetation.
- Chemicals and materials are not to be transported, stored, used or mixed within a root protection area or within areas cordoned off by protective barrier fencing.
- Cement silos, mixing site to be situated within a bunded area to prevent pillage/leaking of chemicals harmful to trees. These areas are to be sited well clear of protected trees.
- Refuelling of plant or machinery is prohibited within 10m of the construction exclusion zones.
- It is essential that allowance should be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.
- Where machinery is to be used within 5m of retained tree canopies a banks man will be required at all times whilst setting up, moving or operating within this distance of retained trees canopies.

Construction

Concrete foundations

Prior to any concrete being poured to form the foundations of dwellings, hard surfacing or fence posts within or immediately adjacent to the RPAs of retained trees the excavation is to be lined and sealed to prevent any leaching of the concrete into the soil and causing desiccation of retained roots by concrete run off.

Landscaping

Any tree planting should take into consideration the available space for tree growth and development in order to ensure the trees are physically suited to the site at maturity. A specification for and notation relating to the precise alignment of replacement trees will be contained in the landscape proposals.

Landscaping around retained trees may only be carried out once all tree protection measures have been removed (planting, turfing, fencing etc.).

All excavations within the Root Protection Areas shall be undertaken by hand and without reducing current ground levels unless it is agreed in writing with the LPA. At no time is the use of a rotavator permitted within the RPAs of retained tree.

Any tree roots discovered will be left in-situ and shall not be cut or otherwise damaged. Where possible, the soil structure within the Root Protection area shall be preserved.

No works will be carried out within the RPAs of any trees if the soil moisture is of such a level that soil compaction may be likely. Should the soil become compacted or has poor structure which would hinder the development of the existing trees and plants or any new plantings the arboriculturist should be consulted about soil decompaction techniques.

Services

Existing services within the site should be retained where ever possible. Where existing services within RPAs require upgrading, the upmost care must be taken to minimise disturbance, and where feasible trenchless techniques are to be employed, and only where necessary should open excavations be considered.

Where new services are to be introduced into the site they should be located outside of RPAs, where they will not interfere with tree roots. If any excavations are required within the RPAs all trenches are to be excavated by hand and radially to the tree trunks under direct on-site arboricultural supervision and are to be carried out under NJUG guidelines.

Final positions of any proposed services should be verified and approved by the arboricultural consultant and local authority tree officer before implementation.

New Underground services

Trenching for installation of underground services and drainage routes could sever any roots that may be present and as such adversely affects the health of the tree. For this reason particular care should be taken in routing and methods of installation of all underground services. All underground services and drainage routes should be located so that no excavations are required within RPAs.

Where it has been impossible to keep underground services from passing through RPAs or within close proximity to trees, these sections are to be installed in one of three ways in accordance with the guidance set out in National Joint Utilities Group guidelines (NJUG 4), under on site arboricultural supervision.

Trenchless Techniques

There are three main types of trenchless techniques, these include, guided and unguided boring and pipe replacement by lining or bursting. These allow for the installation, maintenance or renewal of underground services, without the disturbance of soil in which roots are likely to be growing. Starting and receiving pits for the boring machinery are to be located outside of the RPAs of any retained trees, with the bore depth being maintained at a minimum depth of 600mm below the existing ground level. Techniques involving external lubrication of the equipment shall use no material other than water as other lubricants could contaminate the soil (e.g. oil, bentonite, etc.).

Monitoring and Supervision

The development's tree protection is to be monitored by Arbtech Consulting Ltd, who should be retained to record and report observations to the council at appropriate intervals.

Prior to the commencement of any works on site a pre-start meeting is to be held to discuss the protection methodology, arboricultural method statement and swap contact details (See Appendix 1).

As a suggested minimum, the arboricultural consultant should visit once to check that the tree protective measures are in the correct location and if so to sign off their installation.

There after visits at regular intervals, to ensure that tree protection measures are in place and are functioning as designed or whenever necessary to undertake works to be carried out under arboricultural supervision. The frequencies of the arboricultural monitoring visits are to be decided with the LPA tree officer at the pre-start meeting. A record of these visits will be kept and any faults will be logged, this will then be copied to the site agent, developer and local planning authority.

The arboricultural consultant will be advised a minimum of 72 hours prior to the commencement of any works that require his attendance, i.e. installation of underground services, removal/construction of hard surfacing, any excavations within or adjacent to the RPAs.

Once all construction works have been completed all materials and machinery has been removed from site the arboricultural consultant shall visit the site and to sign the development off and recommend that protective measures can be removed.

Construction supervision:

1. Pre-commencement site meeting;
2. Location of protective measures;


Completion meeting

Once all construction works have been completed all materials and machinery has been removed from site the project arborist shall be informed and will invite the LPA tree officer to meet on site to discuss the process and discuss any final remedial works that may be required and to sign the development off so that the protective measures may be removed.

Appendix 1 - Contact Details

Name	Position	Company	Contact
Mr Tanek Amin	Client		
	Tree Officer		
Mr Alan Thompson	Arboricultural Consultant	ARBTECH Consulting Ltd.	07703 676 216 at@arbtech.co.uk www.arbtech.co.uk
	Site Manager		
	Main Contractor		

Document Production Record

Document number	Editor	Signature	Position	Issue number	Date
Arbtech AMS 01	Alan Thompson		Arboricultural Consultant	1	05/07/2015

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If you require clarification of information contained herein, please do not hesitate to contact me via 07703 676 216

Yours Sincerely,



Alan Thompson FdSc (Arb.), M.Arbor.A

Arboricultural Consultant