# Arboricultural Method Statement & Tree Protection Plan

## in accordance with BS 5837: 2012

**Site/ Application address: 26 Winchester Road**

**125/P/01/006**

Rev A (24.11.14) BS references updated

**19.11.14**

**Contents**

Introduction

Summary

1.0 Sequence of Events

2.0 Root Protection Areas (RPA's)

3.0 Restrictions within Tree Protection Areas

4.0 Tree Protection Fencing

5.0 Ground Protection

6.0 Avoiding Crown and stem damage

7.0 Tree Surgery

8.0 Soft Landscaping within RPA

9.0 Demolition and removal of surfaces in the RPA

10.0 New structures in the RPA

11.0 Excavation in the RPA

Appendix

**Introduction**

It is proposed to carry out the rebuilding of the existing front wall at 26 Winchester Road NW3 3NT.

This Arboricultural Method Statement has been complied to ensure the safe and healthy retention of all trees to be retained on this development. Integral to achieving this goal is the implementation of the special construction details and protection methods detailed within this report.

This Method Statement must be made available to all contractors and operatives on the site during the construction process so that they fully understand the importance of the measures set out for tree protection.

The information contained within this Arboricultural Method Statement conforms to BS 5837:2012 'Trees in relation to Construction – Recommendations'. The controlling authority is Camden Council. For details of trees to be retained and the locations and types of special protection methods, reference should be made to the Tree Protection Plan.

It should be noted that this is a site-specific Arboricultural Method Statement produced solely for the physical protection of the tree identified on the above plan and is not relevant to any other site or situation.

This report has been compiled from data achieved by Visual Tree Assessment and no more detailed survey has been carried out.

**Summary**

There is one Ash on the neighbouring property at no. 28 subject to a Tree Preservation Order (TPO) placed and owned by Camden Council which will require physical protection during all stages of any approved construction. They are to be protected by Construction Exclusion Zones (CEZ's) as recommended in BS 5837:2012 and as shown on the Trees Protection Plan (TPP).

**1.0 Sequence of Events**

1.1 The following sequences are governed by operational constraints and subject to change. The

architect must be noted of any changes to this schedule:

Pre-development Stage

- Pre-commencement site meeting between client and site works contractor and architect. This meeting must take place before any development activity begins to confirm the timing and implementation of the agreed Tree Works and installation of Tree protection measures.

- Pruning of tree directly impacted by development: Removal of dead wood from tree.

- Tree protection measures installed to the Tree at high level around and on the existing garden walls not being rebuilt.

- Site to be inspected by architect.

Development Stage

- This stage is subject to site monitoring visits by the architect at intervals as agreed at the pre-commencement site meeting. These visits are to ensure that the agreed protection measures are functional and correctly achieving their purpose.

- Site accessible to contractors workmen.

Development

- Removal of Protective Fencing as agreed by the architect.

- Contractor to be briefed by the architect. Removal of the existing wall and foundations and new foundations cast and wall construction implemented.

1.2 Supervision is to be carried out at all crucial stages throughout the construction process to ensure detailed tasks are carried out as per the approved methodology. At points as detailed in section 1.1 and during:

- Removal of the existing wall near to tree or within RPA's.

- Any incursion into CEZ's for whatever reason.

1.3 This supervision will require the architect to be present throughout the tasks, to ensure all the objectives are met.

1.4 If the task is to take a long period of time, provided the architect is satisfied, the supervision may be reduced to telephone contact between the site Project Manager and the architect.

1.5 The local authority arboriculturalist will have free access to the site and pass any recommendations direct to the site contractor.

1.6 Any alterations to the Protective Fencing should be approved by the architect.

**2.0 Root Protection Areas**

2.1 A root protection area (RPA) has been determined for the tree. The RPA is designed to protect at least a functional minimum of tree root mass in order to ensure that the trees survive the construction process.

2.2 It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them.

**3.0 Restrictions within Tree Protection Areas**

3.1 Inside the exclusion area of the Protective Fencing, the following shall apply:

- No mechanical excavation

- No excavation by any other means without architect site supervision.

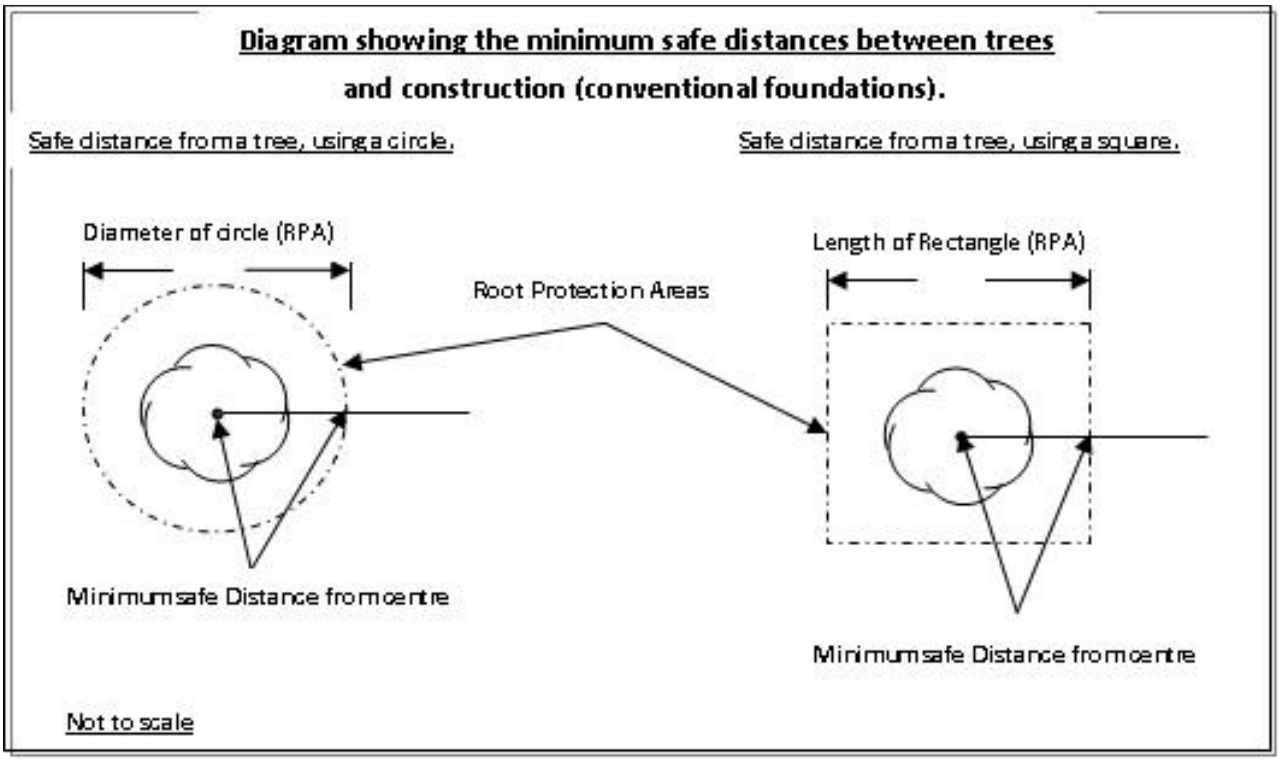
- No hand digging without a written method statement having first been approved by the developers arboriculturalist.

- No ground level changes whatsoever.

- No storage of plant or materials.

- No storage or handling of any chemicals.

- No vehicular access.



**4.0 Tree Protection Fencing**

4.1 The Tree Protection Plan (TPP) shows the position of the Tree Protection Fencing (TPF). This fencing comprises of one type as detailed below. Vertical banners should be erected and ground protection installed before any materials or machinery are brought onto site and before any demolition, development or stripping of soil commences.

4.2 Once erected, barriers and ground protection will be regarded as sacrosanct, and will not be removed or altered without prior agreement of the architect.

4.3 Barriers should be fit for the purpose of excluding constructive activity, and appropriate to the degree and proximity of work taking place around the retained tree. On all sites, special attention should be paid to ensuring that barriers remain rigid and complete.

4.4 In most cases, barriers should consist of a scaffold framework in accordance with Fig. 3 comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this, weld mesh panels should be securely fixed with wire or scaffold clamps. Weld mesh panels on rubber or concrete feet are not resistant to impact and should not be used.

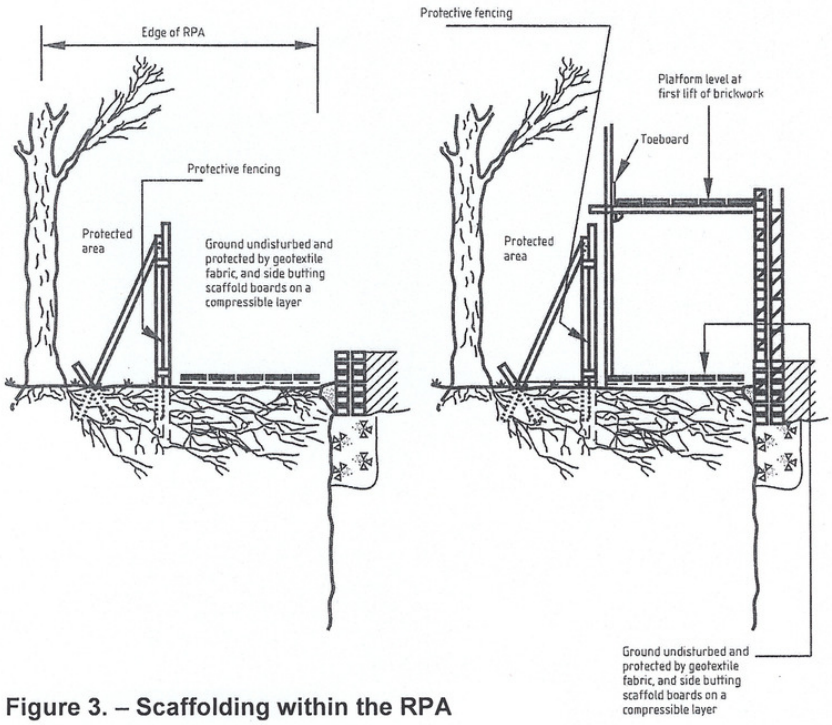



**Figure 3. – Scaffolding within the RPA**

4.5 Should any alternative method of barrier construction be proposed, consultation with the architect will be obtained to clarify the efficacy of the revised design prior to informing the local planning authority and obtaining their consent.

4.6 Once the exclusion zone has been protected by barriers and/or ground protection, construction can commence. All weather notices should be fixed to the barriers with the words: 'Construction exclusion zone – Keep out' or similar. 6

Example of Tree Protection Warning Sign.

**5.0 Ground Protection**

5.1 Any ground protection to be installed in locations shown on the TPP must be strong enough to support any predicted load and resist compaction and soil damage.

5.2 The primary method of protecting the ground when erecting scaffolding within RPA's is by installing geotextile fabric and side butting scaffolding boards on a compressible layer such as bark chippings on a geotextile membrane.

5.3 The scaffolding may be erected first with the uprights placed on spreader boards and the ground protection installed around the uprights.

5.4 The boarding will be left in place until the building works are finished.

5.5 A single thickness of boarding laid on the soil surface will provide sufficient protection for pedestrian loads.

5.6 The ground beneath any protection boarding will be left undisturbed and will be protected with a porous geotextile fabric. If necessary, sand should be laid on the fabric to level the ground.

Scaffolding within the RPA Avoiding Crown and Stem Damage

5.7 Great care must be exercised when working close to retained trees. Plant and machinery with booms, jobs and counterweights and the passage of tall or wide loads etc. Should be controlled by a bankmans to maintain adequate clearance.

5.8 Access facilitation pruning shall be kept to the barest minimum necessary to facilitate development and shall be carried out in strict accordance with the guidance below (Tree Surgery). Under no circumstance shall construction personnel undertake any tree pruning operations.

**6.0 Tree Surgery**

6.1 The Ash may contain some dead wood that should be removed in accordance with BS 3998: 2010 'Tree work'. This work is to be carried out by a suitably qualified Tree Surgeon (ideally chosen from the Arboricultural Association's Approved Contractors list). Proof of experience and insurance provisions will be required. The work should be in accordance with our instructions. During these works the climbing Tree Surgeon will be instructed to inspect the tree for any cavities, damage, dead wood or disease which may not be apparent from ground level.

6.2 All operations shall be carefully carried out to avoid damage to the trees being treated or neighbouring trees. No trees to be retained shall be used for anchorage or winching purposes.

**7.0 Hard Surface Removal within Root Protection Areas (RPA)**

7.1 The initial 'breaking up' of the garden wall may be carried out by low impact pneumatic tools (not breakers attached to diggers or JCB's, unless required due to the nature of the surface and if so, only when agreed with the supervising arboriculturalist), or by hand if possible.

7.2 Removal of the surface will occur in 2m strips working from undisturbed surface. This will enable any roots exposed to be covered with a good quality top soil to avoid desiccation and the ground to be 'made good' as the operation progresses, avoiding the need for excessive travel on exposed ground.

**8.0 Soft Landscaping within RPA**

8.1 Where practical subsequent removal of debris will be carried out by hand.

8.2 No reduction in levels of the underlying soil surface will occur.

8.3 The underlying soil may be levelled by the addition of up to 100mm of good quality top soil to BS 3882:2007 . Hand tools only will be used for any levelling works; this work will not disturb the underlying soil.

8.4 If the area around the retained trees is to be left following the removal of the existing hard surface, before a new hard surface is laid or soft landscaping implemented, then the line of protective fencing must be correctly re-established immediately after the hard surface removal work has been completed.

8.5 If, for whatever reason there is a delay before the area is left exposed prior to awaiting a new surface, then a temporary surface must be implemented or the area fenced off.

8.6 If the area around the retained trees is to be left following the removal of the existing hard surface, before a soft landscaping implemented, then the line of protective fencing must be correctly re-established immediately after the hard surface removal work has been completed.

8.7 If, for whatever reason there is a delay before the area is left exposed prior to awaiting a new surface, then a temporary surface must be implemented or the area fenced off.

**9.0 Demolition and removal of surfaces in the RPA**

9.1 During demolition, the following restrictions will apply:

- Where direct damage by falling masonry is likely, the tree should be protected by exterior grade plywood sheets constructed around the main stem.
- The main body of any mechanical excavator will operate outside the RPA.
- Masonry will be pulled away from trees where possible.
- When breaking masonry, a fine water spray will be used to minimise dust particles.
- Excessive dust particles on trees will be removed each day by spraying with water.

9.2 Hard surfaces ie the existing wall should be kept in place for as long as possible during construction works in order to prevent soil compaction. During surface removal, the following restrictions will apply:

- Only hand operated tools will be used to lift existing surfaces and subbase. No mechanical excavators are to be used.
- No excavation below the existing sub-base will occur.
- Exposed roots are to be treated as in section 6 above.
- All surface removal within the RPA will be supervised by the arboricultural consultant or the Local Authority Tree Officer.

**10. New structures in the RPA**

10.1 concrete strip foundations are to be installed only within the area of the existing footings.

10.2 A small amount of excavation will be undertaken to provide a suitable foundation, however, no roots over 25mm in diameter should be severed without the advice of an arboriculturist or Local Authority Tree Officer.

10.3 Traditional footings should not be used within the RPA for the construction of nonload bearing walls. It may be possible however, to construct walls in proximity to trees by bridging existing roots with lintels.

10.4 Where foundations are to be laid in the RPA of retained trees, root damage can be minimized by using small diameter piles located to avoid major tree roots.

10.5 Backfilling of any excavation should be carried out by hand to avoid direct root damage by excessive compaction and should include, where possible, the replacement of inert granular material mixed with sharp sand (not builder's sand) around retained roots.

**11.0 Excavation in the RPA**

11.1 Any necessary excavation must be carried out using hand tools to avoid direct damage to the protective bark of tree roots. It may be possible in some instances to use specialised equipment such as high air pressure machinery to excavate the soil with minimal disturbance to roots.

11.2 Exposed roots will be wrapped in dry, clean Hessian sacking to prevent desiccation and to protect from rapid temperature changes. In warmer weather, the sacking should be kept moist by regular watering. Sacking should be removed before backfilling.

11.3 Roots less than 25mm diameter may be pruned back, preferably to a growing point. A sharp cutting tool such as bypass secateurs or a handsaw should be used to leave the smallest wound possible. Roots greater than 25mm in diameter should be retained wherever possible.

**Appendix** - BS 5837: 2012 - Types of hard surfaces and their suitability in proximity to trees

**General**

If a hard surface is proposed above the granular material, a permeable and gas-porous finished surface (wearing course) should be installed.

In some situations, consideration should be given to constructing the final surface prior to the main building works, so as to provide protection for the roots at subsequent stages. However, it may be desirable to protect the final surface from drainage with a temporary covering.

**Paving slabs and block pavers**

Paving slabs and block pavers are available with built in infiltration spaces between the slabs or blocks. These are ideal, though they should be laid dry-jointed on a sharp sand foundation to allow air and moisture to penetrate to the rooting area.

**In situ concrete**

As in situ concrete forms an impermeable surface, falls and openings should be provided for water and air to enter the soil. This can be achieved by forming 50mm diameter holes in the construction of a slab at regular spacing's of 300-600mm (as determined by an engineer) and back-filling the resulting holes with no-fines gravel or aggregate. A high standard of material and workmanship is needed if frost damaged and excessive wear are to be avoided.