

Arboricultural Method Statement

Proposed Construction of Garden Room

at
47 Compayne Gardens
London

**Written by Alastair Gavin of behalf of Tree Aware UK Ltd
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The purpose of this document is to aid in the protection of the trees on the site above which are being retained throughout the construction process. These trees can easily be protected during this process by clearly setting out tree protection methods, construction techniques and working practices that are appropriate to the site, this document provides this information in line with the recommendations of BS 5837: 2012 "trees in relation to design, demolition and construction - recommendations".

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1.0 Summary

- 1.1 The points listed below are explained in more detail in this report and it is intended that this summary is for quick reference only. I advise that the report is read fully before any actions are decided and undertaken. This is in order to avoid breach of the tree protection legislation whether by a planning condition, area planning designation, or specific tree preservation order that may apply to the trees on this site.
- 1.2 This document will give specific site instructions on the methods required to protect the trees to be retained (T1, T3, T4, T5) on the site during the construction of the proposed Garden Room at 47 Compayne Gardens, London. The following is a list of identified tree protection measures that are appropriate to the construction taking place at the above site.

1 Pre-Construction Meeting

A pre-construction meeting if conditioned/deemed necessary by the local planning authority will be undertaken to run through the Arboricultural Method Statement (AMS) to ensure all parties are familiar with the tree protection measures and what trees are to be retained/protected on the site.

2 Execute Tree Works

Details of these tree's works are contained within this document and will be undertaken before construction work starts and should be in accordance with BS 3998:2010 Tree Work - Recommendations.

3 Tree and Ground Protection

Implementation of tree protection fencing and or ground protection to protect the trees retained from direct and indirect damage of the proposed construction.

4 General Principles of Tree Protection

To aid in the effective protection of the trees identified for retention.

5 Erection/dismantling of scaffolding (if required)

Avoiding damage in the erection and dismantling of scaffolding to the retained trees.

6 Site Monitoring

Site inspections if conditioned/deemed necessary by the local planning authority will be undertaken to check and confirm the specified tree protection methods in this AMS are in place. Further site inspections i.e. site monitoring on a regular basis carried out to confirm that the tree protection measures have not been breached during construction and that the conditions of the trees on the site have remained intact (undamaged).

7 Pile and Beam or Similar Foundation Construction

Where the proposed construction encroaches into the root protection area of retained trees a pile and beam foundation or similar construction will be used to minimise root damage.

8 Hand Dig Method of Excavation within the Root Protection Area of the Tree or Trees for Installation of Pipe Work **(if required)**

Where installation of pipe work for water, electricity, gas, or drainage purposes needs to be undertaken within the root protection zone of the trees, a hand dig method of excavation will be undertaken.

9 Landscape Re-instatement within the Root Protection Area

Where re-instatement needs to be undertaken within the root protection area of the trees retained care should be undertaken to avoid damage to the tree's root system. The following equipment being prohibited within the root protection area; rotavator, roller, mini diggers etc, with only hand tools allowed.

2.0 Introduction

- 2.1 The majority of tree roots are found in the top one meter of soil, any work to or in the near proximity to trees can result in root damage. This has the likely result that the tree or trees will suffer decline or perish in the years after construction.
- 2.2 The following detailed methods are in accordance with BS 5837:2012 "trees in relation to design, demolition, and construction – recommendations" and are designed to aid in the protection of the trees retained at this site.
- 2.3 An assessment to BS 5837:2012 has been undertaken to the trees. The trees to be retained have been given a root protection area (RPA).
- 2.4 The RPA has been used to allow a Construction Exclusion Zone (CEZ) to be designated; this is the area to be protected during development by the use of barriers, ground protection measures, and specialised construction techniques or other agreed measures to ensure the protection of the trees and roots of the trees from the construction processes.
- 2.5 The following methods have been designated as appropriate measures for tree protection on this site in connection to the construction of the proposed and are set out in a sequence to which they should be undertaken.

3.0 Sequenced Methods of Tree Protection

3.1 Phase 1 Pre-Construction Meeting

An onsite meeting will be held if conditioned/deemed necessary by the local authority with all relevant parties such as the contactors, the appointed arboricultural supervisor, and a representative from the local planning authority. The purpose of this meeting is to agree and record the location of site features and site information such as

- Current tree condition
- Agree tree works (detailed in proposed tree works)
- Locations of site access
- Location of site storage (if required)
- The location of tree protection barriers/fencing and ground protection

3.2 Phase 2 Execute Agreed Tree Works

The following table lists the proposed tree works which should be agreed by the local planning authority before being undertaken.

<u>Tree reference</u>	<u>Proposed works</u>	<u>Comments</u>
T1, T3, T4, T5	None	No work required to facilitate the construction of the proposed.

3.3 Phase 3 Tree Protection Barriers and Ground Protection

Tree protection barriers will be erected to protect the construction exclusion zone of the retained trees.

Barriers will be fit for purpose and be appropriate to the proximity of work taking place around the retained trees. The following specification should be used as the default specification for a tree protection barrier.

It is suggested however that braced Heras fencing would be an appropriate alternative for tree protection at this site, as it would provide the necessary temporary protection, as opposed to the default tree protection fencing detailed below.

Default Tree Protection Barrier Specification

The barrier should consist of vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3m and driven securely into the ground (where the ground surface such as concrete or tarmac prevents ground intrusion an alternative method of fixing the verticals poles should be adopted and agreed by the local planning authority).

Onto the framework, welded mesh panels should be securely fixed. Bracing poles should be used to support the framework however care should be taken to avoid contact with structural roots,

(Please see Appendix 1 Default tree protection fencing for diagram)

Once the agreed barriers are in position they will not be moved and will be considered as a permanent structure on the site until construction is completed.

All personnel on the site should be informed of the barriers role in protecting the trees and their importance. This should be enforced during usage of the site.

To aid in the protection of the trees and the non-admittance to the tree protection area signs will be used. These signs will be clear and straight forward and fixed upon the barrier. An example of the wording is as follows.

“EXCULSION ZONE – NO ACCESS”

Ground Protection

Where tree protection fencing cannot be used due to restricting construction access an appropriate form of ground protection to the work taking place upon it will be used.

This will be in the form of either of the following.

Pedestrian movement only

18mm Plywood boarding on a layer of 100mm woodchip to further reduce compression of the ground and allow levelling.

Pedestrian operated plant and wheeled or tracked construction traffic.

Vis-Track Heavy Duty Access Mat - 2400mm x 1200mm x 12mm
(Provides effective weight resistance in excess of 50 tonnes)

If unavailable a similar ground protection mat should be provided of the same weight resistance. Agreement should be sought to use this replacement product from the local planning authority before installation.

The ground protection matting will be installed as per manufacturer's instructions before construction of the proposed takes place and remain in situ throughout the construction process and construction usage of the site.

The ground protection matting will not be moved or altered unless in agreement with the local planning authority.

A non-permeable membrane shall be laid down prior to installation of the ground protection matting, to stop any runoff of chemicals / compounds such as cement entering the soil of the root protection area.

All personnel on the site will be informed of the ground protections role in protecting the tree's root systems and their importance. This will be enforced during usage of the site.

Where an area of existing hard standing such as an area of concrete or tarmac is in place and over a proportion of or all the root protection area of a tree or trees to be retained on the site. Or an existing boundary fence of suitable quality is in place. This hard standing area or fence may form existing tree/ground protection and may circumvent the requirement to fully fence off or protect the ground of the tree's root protection area.

3.4 Phase 4 General Principles of Tree Protection

A copy of this Method Statement and Tree Protection Plan will always be retained on site for ease of reference.

No fires will be lit next to or adjacent to the tree protection barriers. If a fire is required, the position on site will be agreed by the supervising Arboriculturalist. **There are to be no fires on site during construction.**

If heavy plant is required in the construction process such as a JCB or 360 excavator care should be taken that the excavating arm does not encroach over the tree protection barriers.

A designated storage area will be created, and the position agreed upon (away from the trees). All materials for construction will be stored in this compound. Care must be taken to avoid any leakages or spillages of toxic materials into the soil. The gradient of the site has been taken into consideration when agreeing the location of the storage area to stop any runoff entering the tree protection areas.

3.5 Phase 5 Erection and Dismantling of Scaffolding (if required)

Care will be taken when constructing and dismantling scaffolding not to breach the tree protection barriers.

The assembly of scaffolding will not be undertaken prior to the tree protection measures being installed and disassembled before the tree protection measures are removed.

3.6 Phase 6 Site Monitoring

Once the listed tree protection measures are in place, a site visit will be undertaken if conditioned and deemed necessary by the local planning authority by the appointed arboricultural supervisor to check and confirm that the tree protection measures are correct and in accordance with this AMS (This site visit maybe combined with the preconstruction meeting).

Confirmation of the exact condition of the trees prior to commencement of the construction will also take place and the findings reported to the local planning authority.

Further visits if conditioned will be undertaken while the construction is taking place to check if the tree protection measures are intact and to report on any changes to the tree's conditions.

After completion of the construction a further check will be undertaken to confirm that no damage has been sustained to the trees.

After each site visit by the appointed arboricultural supervisor a site inspection form will be produced detailing the findings/checks of each site visit and be submitted to the local planning authority (Please see Appendix 2 Site Inspection Form

3.7 Phase 7 Pile and Beam or Similar Foundation Construction

As the proposed construction (Garden Room) encroaches into the root protection area (RPA) of T3 and T4 a pile and beam foundation construction or similar will be used within the RPA as recommended in accordance with BS 5837 "trees in relation to design, demolition and construction - recommendations" section 7, point 7.5 and will be used to minimise any perceived damage to T3 and T4 root systems.

Details of the pile and beam or similar foundation construction i.e., the location of the piles in relation to the tree, will be submitted to the council for approval **if requested**.

In the event that the excavation of the piles encounters sizable roots the pile will be moved to an alternative location first with agreement from the appointed structural engineer and in discussion with the appointed arboricultural consultant and local authority tree officer.

During the construction process of the pile and beam foundation structure care must be taken not to cause any additional damage to the RPA of the trees (T3 and T4) such as compaction. The use of tree protection measures such as ground protection matting will be used throughout the construction process.

3.8 Phase 8 Hand Dig Method of Excavation within the Root Protection Area of the Trees for Installation of Pipe Work **(if required)**

Where installation of pipe work for water, electricity, gas or drainage purposes needs to be undertaken within the root protection zone of the tree or trees the following hand dig method or excavation should be undertaken.

Where possible the route and locations of such pipes/features will be kept at the furthest possible point from the location of the tree to minimise damage to the tree's roots, ideally this should be out of the RPA. Where this cannot be achieved and encroachment into the RPA is allowed by the local planning authority the following sequence of steps for hand digging and installation of the pipes will be adopted.

Hand Dig Specification

Where excavation has to take place within root protection areas of trees the first operation shall be to move tree protection fencing back (if required) to a line 150mm inside the nearest edge of the proposed excavation, where it shall

be immediately re-erected in full accordance with BS 5837 2012 and specification of the AMS.

Hand dig excavations inside the root protection area shall then be carried out by hand very carefully, avoid de-barking, breaking, splitting, splintering, or shattering the roots. If it is proposed to sever any roots of 25mm in diameter or greater an explanation will need to be submitted to the local authority tree officer for approval with justification as to why an alternative method of installation (e.g., moling) cannot be undertaken. Where roots under 25mm in diameter are to be severed or where root severance has been agreed in writing by the local authority tree officer, they will be cut back to a point 150m beyond the nearest edge of the construction towards the tree, they must be pruned back cleanly with a sharp clean pruning saw or bypass loppers making level, smooth right angle cuts with no ragged edges. Where roots of 25mm in diameter or greater are encountered they will not be cut back or damaged unless approval has been granted by the local authority Tree Officer.

Timber shuttering shall then be erected as the excavation proceeds both to protect the cut ends of the roots and to retain the edge of the excavation. Construction of the permanent retaining (if being used) can then commence, at all times keeping substances toxic to roots away from roots and the root protection area, i.e. tars, fuels, oils, bitumen, cement, plaster etc.

At completion of the construction works the shuttering shall be removed and the 150mm void between the back edge of the construction and the face of the excavation shall be backfilled with an approved purpose-made tree planting compost mix, properly consolidated to prevent subsequent settlement and finished up to adjacent surface levels.

3.9 Phase 9 Landscape Re-instatement within the Root Protection Area

Where re-instatement of the ground, landscaping and, or planting including the applications of topsoil or mulch needs to be undertaken within the root protection areas of the retained trees T1, T3, T4, T5, care will be taken to avoid damage to the tree's root system.

Access to the Root Protection Areas (RPA) will only be undertaken once all construction work has finished on site.

Levelling, top dressing, and cultivation will be undertaken with manual handheld equipment only, with the use of rotavators, mini diggers, rollers and other mechanical equipment being prohibited within the root protection area of the trees.

Clearance of vegetation will be undertaken by handheld equipment such as strimmers, chainsaws, power loppers only etc with tractor mounted equipment being prohibited within the root protection area of the trees. The clearance of vegetation within 1 meter of the stem (trunk) of the trees will be undertaken by hand without the use of powered machinery.

Where levelling of the site is required within the root protection area and involves the incorporation of additional topsoil or mulch. The soil used will meet the standards of BS 3882: 2007 Specification for topsoil and requirements for use. There must only be a maximum of 100mm increase in soil level and no reduction to the existing soil level. Only minimal excavation to prepare the soil is permitted.

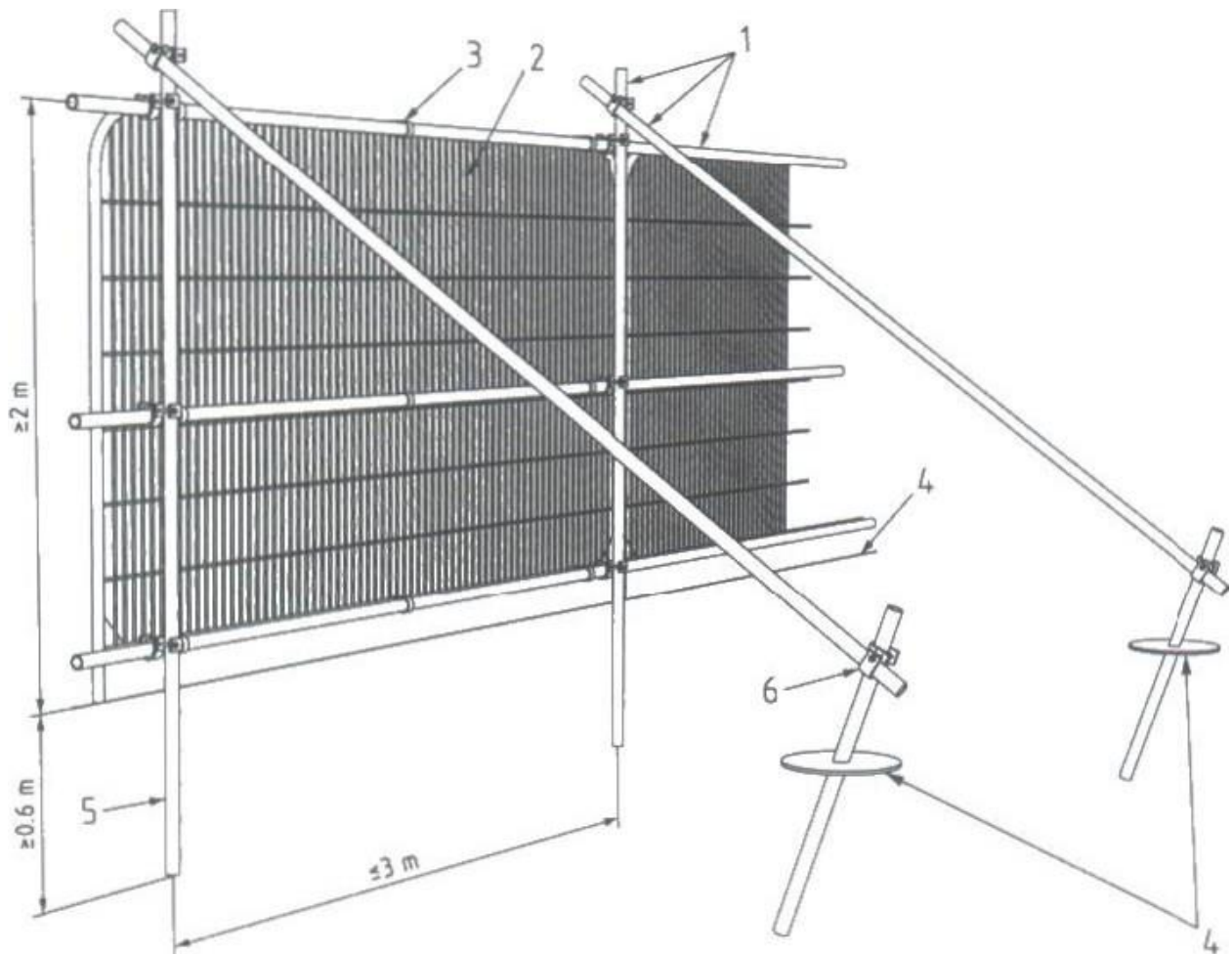
If herbicides are to be used to control weed/vegetation permission for use of the product type needs to be sought from the local planning authority and or supervising Arboriculturalist. Any membrane material used within the root protection area for the control of weeds or other use will be permeable.

Additional

In the event that the appointed contractor is uncertain of the correct course of action when undertaking construction/installation processes that may affect a tree or trees protected on site, or a situation that is unexpected arises that affects the tree or trees. The appointed arboricultural consultant will be contacted, and the process discussed to find an approach with agreement from the local authority.

Appendix 1

Default Tree Protection Fencing (superseded using braced Heras fencing, diagram for reference only)



Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2m tall, galvanised tube welded mesh infill
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6m)
- 6 Standard scaffold clamps

Appendix 2 Site Inspection Form (to be used for the site monitoring inspections **if conditioned** by the local planning authority)



Tree Protection Site Inspection Record Sheet

Address/location of site:

Planning Ref:

Date of Site Inspection:

Site Inspected by:

Was the specified tree protection stated in the Arboriculture Method Statement in place on the date of inspection Yes / No

Please provide details:

Were there any signs of damage to the tree/trees retained on or adjacent to the site Yes / No

Please provide details:

Please rate the adequacy of the tree protection to protect the retained tree/trees on or adjacent to the site including materials used:

Inadequate Poor Adequate Satisfactory

Please list materials used to for the tree protection:

Is the site storage within the agreed area or away from influencing distance of the tree/trees on or adjacent to the site? Yes / No

Please provide details:

Date of next tree protection inspection if required:

Inspected by Date

(Signature)

Photographs of tree protection measures for the site to be inserted below;

Appendix 3 Tree Protection Plan

(Please see separate document, Drawing No 79034-7-02)