

Site: 133 King Henry's Road, London, NW3 3RD

Author: Emma Hoyle  
FDS (Arboriculture), ED (Forestry & Arboriculture), M. Arbor. A

Date: 15 / 02 / 2023 Revision: 1 CCL ref No: 10812

Client: Joe Ibbotson

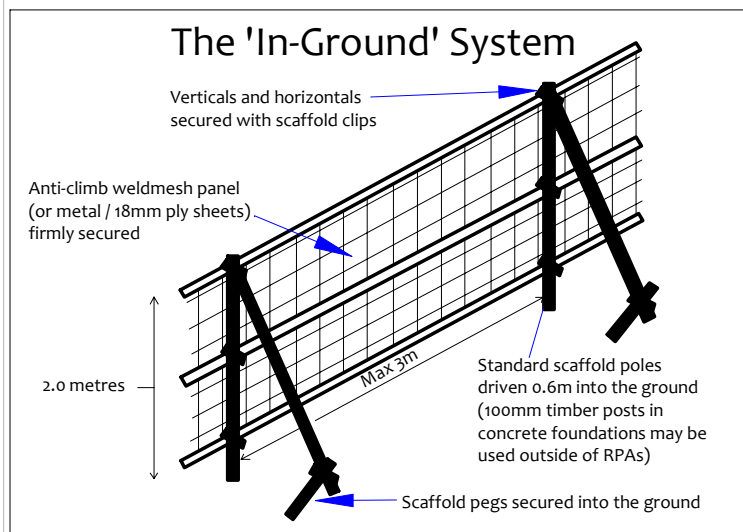
## Tree Protection Barriers

The purpose of tree protection barriers is to keep construction activity away from Restricted Activity Zones or Construction Exclusion Zones. They must be appropriate to the nature and proximity of activity within the site. The barriers must be erected prior to the commencement of all activity including demolition, soil stripping and delivery of materials and demolition (except where existing structures require demolition to enable the barriers to be installed). Barrier systems are specified below and are to be installed according to the legend on the Tree Protection Plan.

### The In-Ground System

This system will be installed where indicated by a solid purple line on the Tree Protection Plan. It will be robust enough to withstand occasional knocks by plant machinery and, once installed, will remain in place throughout the entire construction phase.

Vertical scaffold poles are driven into the ground, onto which are affixed horizontal scaffold poles and diagonal bracing struts. Weldmesh panels (or similar – e.g. Heras type fencing panels, or 18mm+ plywood boards) are secured to this scaffold framework using sturdy clips e.g. standard scaffold clips. The system is illustrated in the diagram below and is based on BS 5837 guidelines.

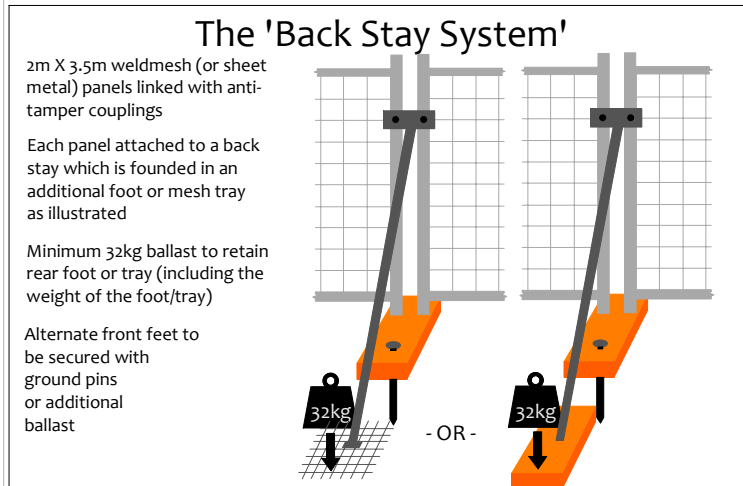


### The Back-Stay System

This system will be installed where indicated by a dashed purple line on the Tree Protection Plan. It is more practical over existing hard surfaces or where the fencing needs to be moved to enable permitted activities within a Restricted Activity Zone. This system is able to withstand occasional knocks by machinery and must not be relocated except with the consent of the site manager and the approval of the local authority.

Within this system, weldmesh fencing panels (minimum height 2m) are affixed into rubber or concrete feet and clipped together with anti-tamper couplers. Two couplers should be used, spaced at least 1m apart. Alternate panels will be attached to a diagonal back stay connected to an additional foot or baseplate secured with ground pins or additional ballast. Where ground pins are not used, the total weight of the foot/plate plus ballast must total no less than 32kg.

Where it is not possible to install diagonal struts (such as very close to a hedge) then the front feet will be secured using ground pins or ballast.



## Notices

Suitable weather-proof notices are to be displayed to identify tree protection zones. They must state the purpose of the fencing and that it will not be moved, or traversed, other than by authorised personnel.

## Removal of Tree Protection Barriers

Removal of protective fencing or ground protection measures will only be done after all major construction work is complete and their removal has been approved by the appointed arborist.

## Ground Protection Measures

Within Restricted Activity Zones, soils containing roots may be subject to compaction due to general construction activity (including pedestrian activity and use of plant machinery). In order to minimise compaction, it is proposed to ensure that a suitable load-spreading surface is in place at all times.

Any existing hard surfacing may be retained where engineers consider it adequate to spread the load of construction traffic. Otherwise, it will be reinforced or replaced with adequate ground protection measures.

Unless specified otherwise, ground protection will consist of 24mm OSB boards laid at double thickness and screwed together to prevent slippage. The ground will be made even by raking, and by adding a 100mm of sand or woodchip, wherever vehicular access is proposed. Where only pedestrian traffic will occur, boards or planks may be laid directly onto the ground or supported by a scaffold framework. The scaffold will be founded on poles driven into the ground and/or onto blocks (to raise the scaffold) with additional couplings to make the framework secure.

Where engineers consider OSB boards to be inadequate (e.g. for large plant machinery where the tracks may chew up the timber) sturdier ground protection measures will be installed such as road plates, or 100mm of 7-40mm angular gravel installed in 3D cellular confinement system (e.g. CellwebTM).

If a piling mat is required, specifications will be agreed between engineers and the project arborist.

The ground protection measures will be installed and approved before the commencement of demolition and construction activity and before the arrival of plant machinery or materials. They shall remain in place until all heavy construction activity is complete or until they are due to be replaced with a new hard surface.

## Construction Exclusion Zones

Within Construction Exclusion Zones the following restrictions apply:

- Tree Protection Barriers will be erected and maintained throughout the entire project as indicated on the Tree Protection Plan and under the header -Tree Protection Barriers.
- These will remain in place at all times except when authorised landscaping works are being undertaken. At such times, adequate ground protection measures will be installed, and excavation shall be limited to that required for new planting. Furthermore, the project arborist will be consulted prior to any works being undertaken in these zones.
- No construction activity or excavation will occur unless agreed otherwise by the project arborist and local authority.
- No vehicles or plant machinery will be driven or parked.
- No tree works, other than those specified on this document will be undertaken.
- No alterations of ground levels or conditions will occur.
- No chemicals or cement washings will be permitted.
- No temporary structures will be installed.
- No spoil will be stored.
- No fires will be permitted.
- All hazardous materials (including non-essential cement products) will be forbidden.
- Removal of hard surfaces, structures or turf will be done using hand operated tools only and supervised by the project arborist.

## Tree Works Specification

The following table specifies the tree works which will be required prior to the commencement of construction activity:

Tree Reference	Action Required	Notes
T7	Crown lift the east and south sides of the canopy to a height of 3.5m.	Branches to be pruned back to a secondary branch junction or the branch collar wherever possible.
T11	Prune the canopy overhanging the garden back towards the boundary (pruning works shall be generally confined to one significant branch).	Branches are to be pruned back to a suitable branch junction wherever possible.

## Restrictions in Specific Zones

### Restricted Activity Zone A

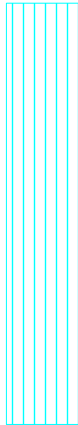
Within this zone, tree roots are likely to be present where access will be required to facilitate construction. The following restrictions shall apply:



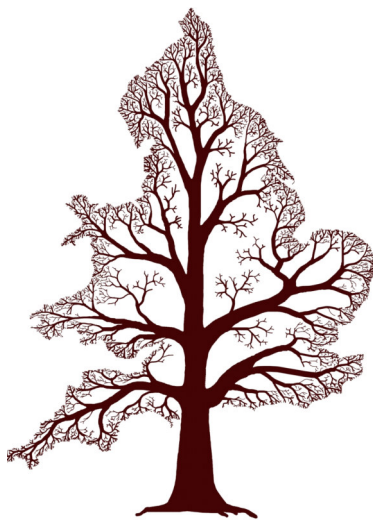
- No vehicles or plant machinery will park or operate unless a suitable load-spreading surface is in place. The load spreading surface will be installed specified under the heading **Ground Protection Measures**. This will remain in place throughout the entire demolition and construction phase.
- Removal of the shed and paved surfaces will be undertaken using hand tools only and pulled in a direction away from adjacent trees.
- Except for the excavation detailed under Restricted Activity Zone B to facilitate the proposed ancillary building, no further excavation will occur without consulting the project arborist and obtaining approval from the local authority.
- Existing ground levels will not be altered by more than 150mm. Ground levels may only be raised using granular topsoil (not rich in clay) or where new surfacing is proposed. No raising of ground levels whatsoever will occur within 0.5m of any tree stem.
- No new permanent or temporary structures will be erected other than those shown on the planning application documents unless approved by the local authority.
- Underground services will not be installed in this area without prior consultation with the project arborist and a methodology agreed upon and approved by the local authority.
- If roots are encountered in excess of 25mm diameter, they will be retained wherever possible and protected with damp sacking during times that they are unearthed. Any roots in excess of 10mm that need to be severed will be pruned with secateurs.
- Storage of materials and spoil will be avoided in this zone unless it has been agreed with the project arborist that the ground protection measures are adequate to ensure no soil compaction or contamination occurs. All hazardous materials (including non-essential cement products) will be forbidden.
- No fires will be permitted.
- Vehicles or plant machinery in excess of 2 tonnes will not be permitted in this area.

### Restricted Activity Zone B

In this zone, foundations are to be installed. In order to minimise the impact on roots, it is proposed to install a **Shallow Foundation**. The following restrictions will apply:



- Deep concrete strip foundations will not be acceptable in this area. Instead, a shallow raft or beam foundation will be installed.
- Excavation for the raft or beam will be limited to a depth of 200mm and will be undertaken using hand tools.
- Excavation will not exceed 200mm beyond the building footprint.
- Narrow diameter piles may be installed to support the raft or beam foundation. In which case, trial pits will be excavated to determine the location of the piles. Trial pits will be 300mm x 300mm and excavated using hand tools to a depth of 600mm. Excavation will be undertaken in the presence of the project arborist. The soil will first be loosened with a pick or garden fork to ascertain if large roots are present before the loosened soil is removed with a spade. If roots in excess of 50mm are encountered, they will be retained intact wherever possible and the pile will be relocated. Roots in excess of 25mm will be neatly severed using clean, sharp secateurs. Beyond this depth, piles may be installed using a small auger or piling rig. The pile diameter will not exceed 250mm unless agreed otherwise with the local authority.
- Roots in excess of 25mm which are located close to the bottom or the edge of the excavation are to be retained intact where possible and covered with wet sacking whilst exposed. All roots in excess of 10mm which cannot be retained will be neatly pruned with secateurs.



**CROWN**  
Tree Consultancy  
01422 316660

## General Restrictions - Throughout the Site

### Preparatory Works

No demolition, removal of surfaces, or soil stripping will commence until the protective fencing and ground protection measures are installed to the satisfaction of the local authority.

### Fires

No fires will be permitted beneath any tree canopy or within 5m of any tree stem, branch or foliage. No fires will be permitted within any Construction Exclusion Zone or Restricted Activity Zone. No fires will be permitted in the vicinity of any exposed tree roots.

### Canopy Protection

In order to protect tree canopies the following restrictions will apply throughout the site:

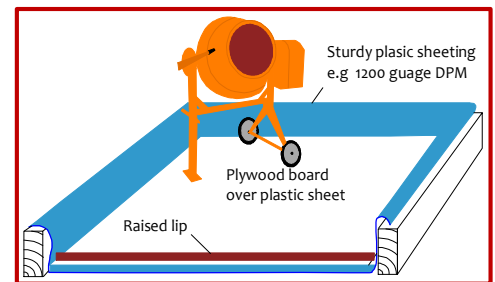
- No machinery in excess of 2m will pass beneath the canopy of any tree without being carefully marshalled in order to ensure that no branches are damaged.
- If materials require installation or delivery beneath tree canopies, this will be done without the use of overhead cranes.
- If materials are to be installed or delivered close to tree canopies (but not beneath them) and a crane is required, they will be carefully marshalled in order to ensure that branches are not accidentally damaged.

### Storage of Spoil and Materials

Storage of materials and spoil will be avoided in any Construction Exclusion Zones and Restricted Activity Zones unless it has been agreed with the project arborist that the ground protection measures are adequate to ensure no soil compaction or contamination occurs. All hazardous materials (including non-essential cement products) will be forbidden.

### Hazardous Materials

Any mixing of cement based materials will take place outside the Construction Exclusion Zones and Restricted Activity Zones. Where cement is to be mixed at considerable distances from trees and water run-off cannot enter Root Protection Areas, then no further special measures are required. Otherwise, provision will be made to ensure that the mixing area is contained so that no water run-off enters the Root Protection Area of any trees (see diagram for example). Mixers and barrows will be cleaned within this area.



All other chemicals hazardous to tree health, including petrol and diesel, will be stored in suitable containers as specified by current COSHH Regulations, and kept away from Root Protection Areas.

### Underground Services

No underground services (including soak-aways) will be located in any part of the Construction Exclusion Zones or Restricted Activity Zones unless done so in a manner detailed in a specific Method Statement and approved by the local authority.

### Site Hoarding

If site hoarding shall be installed over the Root Protection Area of any tree, the following restrictions will apply:

- Ground levels will be maintained as existing.
- Post holes will not exceed 300mm x 300mm.
- No post hole will be excavated within 1.5m of any tree stem.
- Post holes will be excavated using hand tools or by a post-hole auger attached to plant machinery sited outside of Root Protection Areas.
- Roots in excess of 25mm will be retained wherever possible.
- Roots in excess of 10mm will be pruned with sharp secateurs.
- Pruning will be minimal and only undertaken where absolutely necessary to facilitate the site hoarding. It will be undertaken by a reputable tree surgeon working to BS 3998 (2010).

Site hoarding may be installed in place of the specified tree protection measures subject to the approval of the local authority with regard to its location and specification.

### Siting of Cabins

Cabins will be located outside of Construction Exclusion Zones and Restricted Activity Zones unless agreed otherwise by the project arborist. Where this is being considered, the project arborist will be consulted, and specific tree protection measures agreed. The following general restrictions will apply:

- All services to and from site cabins will be installed above ground through any Root Protection Areas.
- No excavation will occur within Root Protection Areas to enable cabins to be installed.
- The cabins will be founded on a suitable load spreading surface.

### Fence Posts or Decking Posts

If permanent fencing or decking is to be installed within Root Protection Areas, the following restrictions will apply:

- All post holes will be excavated by hand and kept as narrow as possible (maximum diameter 300mm).
- Exploratory post holes will be dug before committing to post / panel positions. If any roots in excess of 25mm are encountered they are to remain intact and the post hole will be relocated slightly. The fencing system must permit such flexibility (i.e. where fixed panel widths are used, all post holes must be excavated before committing to the final location).
- Any roots in excess of 10mm which are severed will be neatly pruned back with secateurs. This shall encourage healing and reduce the likelihood of infection.

Walls will be avoided over Root Protection Areas, unless their foundations are spanned over roots using a beam system.

## Timing of Operations

Activity within the site shall be phased according to the following chronology

Order	Phase	Activity
1st.	Pre-Construction Phase	Planning conditions relating to trees to be identified and discussed with the Project arborist and site manager.
2nd.		All specified canopy pruning to be undertaken (see Header -Tree Works Schedule).
3rd.		Install the tree protection barriers (fencing and ground protection boards - see Headers -Tree Protection Barriers and Ground Protection Measures).
4th.		Pre-Commencement site meeting: Tree protection barriers inspected. Additional protection measures to be agreed. Variances to be agreed. Location of underground services to be agreed. Boundary treatments to be agreed. Extents of excavation to be agreed. Scaffold restrictions to be agreed. Scope of future inspections / monitoring to be agreed.
5th.		Arboricultural Method Statement to be revised and approved (if necessary).
Protection measures confirmed acceptable by the project arborist		
6th.	Demolition and Construction Phase	Demolish existing structures and remove existing surfaces where applicable.
7th.		Install new buildings, hard surfaces and services taking into account restricted activities as specified in this Arboricultural Method Statement.
8th.		Site meeting with project arborist. Landscaping restrictions to be agreed. Condition of retained trees to be assessed and mitigation agreed. Ground conditions to be assessed and ground remediation to be agreed.
9th.	Post-Construction Phase	Remove protective barriers (fencing and ground protection measures as applicable).
10th.		Undertake restricted landscaping operations within Root Protection Areas, including (where applicable) boundary treatments, pedestrian surfaces, decking and any proposed tree planting.

## Personnel and Accountability

This table should be completed at the Pre-Start Meeting or earlier

Position	Name	Contact Phone & email	Roles
<b>Project Manager</b>	Insert Details	Insert Details	<p>Liaising with site manager &amp; project arborist regarding any potential issues relating to trees.</p> <p>Scheduling of meeting, excavations and inspections.</p> <p>Overseeing this monitoring schedule.</p> <p>Instructing the project arborist and arranging access.</p> <p>Liaising with local authority regarding discharge of planning conditions and variances to the Arboricultural Method Statement.</p>
<b>Site Manager</b>	Insert Details	Insert Details	<p>Day to day monitoring of tree protection measures.</p> <p>Fortnightly supply of site photographs showing all tree protection measures.</p> <p>Induction of all contractors.</p> <p>Reporting to the Appointed Arborist of any incidents or potential variations to the agreed tree protection measures.</p>
<b>Project Arborist</b>	Crown Tree Consultancy Insert Details	08000 14 13 30 0203 797 7449 s info@crowntrees.co.uk	<p>Liaising with LPA Tree Officer over all arboricultural matters.</p> <p>Initial inspection and signing off of tree protection barriers including ground protection measures.</p> <p>Monthly site visits and inspections.</p> <p>Reporting to the local authority following site inspections and any variation or incidents.</p>
<b>Local Authority</b>	London Borough of Camden Insert Details	Ins Nick Bell Insert Details	<p>Receipt of reports from the appointed arborist.</p> <p>Liaising with the appointed arborist to agree suitability of tree protection measures and any variations.</p> <p>Enforcement.</p> <p>Advice and assistance with the discharge of planning conditions relating to trees.</p>
<b>Additional Contact</b>	Insert Details	Insert Details	Insert Details
<b>Additional Contact</b>	Insert Details	Insert Details	Insert Details

## Site Monitoring Schedule

Inspection	Site Attendees	Comments
<b>Pre- Start Desk-top</b> To occur prior to any works taking place on the site.	N/A.	Project Manager and Site manager to study this Method Statement & contact the Project Arborist to agree all protection measures.
<b>Pre-Start Meeting</b> After tree works are completed & tree protection barriers/ground protection measures are installed. Prior to any other activity, inc. demolition & soil stripping.	Site manager, project arborist. Tree Officer invited.	Tree protection fencing locations & specifications checked. Ground protection measures checked. Contractors are to be inducted to all relevant aspects of the Arboricultural Method Statement. Responsibilities checked and acknowledged. Adherence to the Arboricultural Method Statement is to be discussed and agreed. Report on findings to be sent to the local authority tree officer.
<b>Monthly Inspection and Reporting</b> To occur once per calendar month throughout the entirety of the project until the local authority agrees that tree protection measures may be removed.	Site manager and project arborist*	Tree protection fencing locations & specifications checked. Ground protection measures checked. Past month, present and future month – activities and adherence to Arboricultural Method Statement discussed and checked. Report on findings to be sent to the local authority tree officer within 5 working days.
<b>Overseeing Excavation for foundations in Restricted Activity Zone B.</b> All excavation including trial pits is to be overseen.	Site manager and project arborist.	Two week's notice to be given prior to commencement. Excavation to be as specified in this Method Statement. Roots to be retained or pruned as specified in this Method Statement. Activities to be recorded and photographed. Mitigation measures to be employed as specified by the project arborist.
<b>Any other ground disturbance in Restricted Zones &amp; Construction Exclusion Zones</b> Including demolition, soil stripping, removal of hard surfaces, excavation for new surfacing, foundations, service trenches etc.	Site manager, project arborist.	Two weeks' notice is to be given prior to commencement. Excavation is to be as specified in this Method Statement. Excavations are to be recorded and photographed. Mitigation measures to be employed as specified by the project arborist.
<b>Post-Construction Meeting</b> Post external construction activity but prior to removal of fencing & landscaping operations.	Site manager, project arborist. Tree Officer invited.	Retained trees inspected. Ground conditions assessed and mitigation measures agreed upon where appropriate. Further landscaping operations and restrictions to be agreed.

\* Where agreed with the L.A. it may be acceptable to supply photographs of the fencing to avoid the necessity for a site visit.

## Photographs

Photo 3.



Photo 4.



Photo 5.



Photo 6.



