

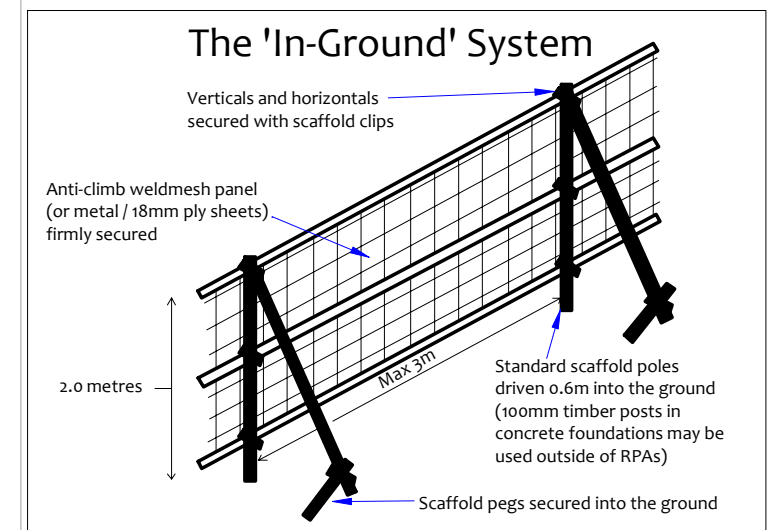
Tree Protection Barriers

The purpose of tree protection barriers is to keep construction activity away from Restricted Activity Zones or Construction Exclusion Zones. They should be appropriate to the nature and proximity of activity within the site. The barriers should 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 should be installed according to the legend on the Tree Protection Plan.

The In-Ground System

This system may be installed where indicated by a solid purple line on the Tree Protection Plan. It should be robust enough to withstand occasional knocks by plant machinery and, once installed, shall 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 to the right and is based on BS 5837 guidelines.

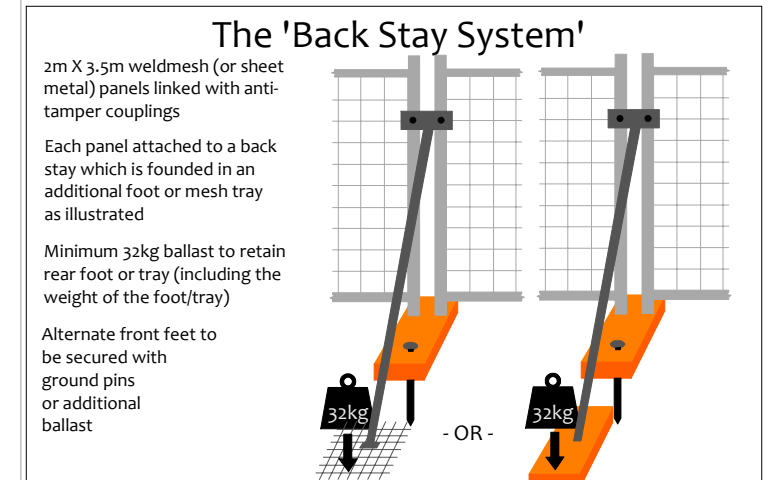


The Back-Stay System

This system may be installed where indicated by a solid or 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 should be able to withstand occasional knocks by machinery and should 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 should be attached to a diagonal back stay connected to an additional foot or banglegate secured with ground pins or additional ballast. Where ground pins are not used, the total weight of the footplate plus ballast should total not less than 3kg.

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



Notices

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

Restrictions in Specific Zones

Restricted Activity Zone A

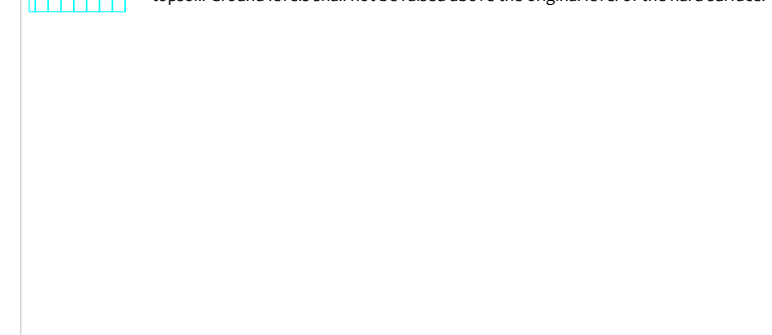
Within this zone, tree roots are likely to be present where access and loading will be required. The following restrictions shall apply:

- The existing hard surface shall be retained intact and undisturbed throughout the entirety of the project.
- No excavation shall occur in this zone.
- Storage of materials and spoil shall be permitted so long as it is retained within the hard surface and not permitted to spill over onto the adjacent soft surface.
- No fires shall be permitted.

Restricted Activity Zone B

The following additional restrictions shall apply when removing the existing hard surface and reinstating soft ground:

- Hand-operated tools shall be used to lift the existing surface.
- Excavation shall be limited to the existing surface and its sub-base.
- After removal of the hard surface and sub-base, no vehicles or driven machinery shall be permitted to enter this zone unless adequate ground protection measures have been installed as specified under the heading **Ground Protection Measures**. In the absence of such ground protection, the area shall be adequately fenced off and treated as a Construction Exclusion Zone.
- Any tools used to raise ground levels back to the original level shall be fertile granular topsoil. Ground levels shall not be raised above the original level of the hard surface.



All other chemicals hazardous to tree health, including petrol and diesel, shall 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) shall 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 shall apply:

- Ground levels shall be maintained as existing.
- Post holes shall not exceed 300mm x 300mm.
- No post hole shall be excavated within 0.5m of any tree stem.
- Post holes shall 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 20mm shall be retained wherever possible.
- Roots in excess of 10mm shall be pruned with sharp secateurs.
- Pruning shall be minimal and only undertaken where absolutely necessary to facilitate the site hoarding. It shall 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 shall 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 shall be consulted and specific tree protection measures agreed. The following general restrictions will apply:

- All services to and from site cabins shall be installed above ground through any Root Protection Areas.
- No excavation shall occur within Root Protection Areas to enable cabins to be installed.
- The cabins shall 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 shall apply:

- All post holes shall be excavated by hand and kept as narrow as possible (maximum diameter 300mm).
- Exploratory post holes shall be dug before committing to post / panel positions. If any roots in excess of 20mm are encountered they are to remain intact and the post hole shall 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 shall be neatly pruned back with secateurs. This will encourage healing and reduce the likelihood of infection.
- Walls shall be avoided over Root Protection Areas unless their foundations may be spanned over roots using a beam system.
- Hedges may be planted within Root Protection Areas using hand tools to minimise excavation.

Timing of Operations

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

Order	Phase	Activity
1st.		Planning conditions relating to trees to be identified and discussed with the Project arborist and site manager.
2nd.		Shrubs and hedges to be removed as illustrated on the Arboricultural Impact Assessment Plan.
3rd.	Pre-Construction Phase	Install the tree protection fencing (see header - <i>Tree Protection Barriers</i>).
4th.		Pre-Commencement site meeting: Tree protection barriers inspected. Additional protection measures to be agreed. Variations 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 (conservatory and low garden walls) and remove existing hard surfaces where applicable.
7th.		Install new buildings and pedestrian paving.
8th.	Post-Construction Phase	Remove protective barriers (fencing and ground protection measures as applicable).
9th.		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
Project Manager	Insert Details	Insert Details	Liaising with site manager & project arborist regarding any potential issues relating to trees. Scheduling of meeting, excavations and inspections. Overseeing this monitoring schedule. Instructing the project arborist and arranging access. Liaising with local authority regarding discharge of planning conditions and variances to the Arboricultural Method Statement.
Site Manager	Insert Details	Insert Details	Day to day monitoring of tree protection measures. Fortnightly supply of site photographs showing all tree protection measures. Induction of all contractors. Reporting to the Appointed Arborist of any incidents or potential variations to the agreed tree protection measures.
Project Arborist	Crown Tree Consultancy	08000 14 13 30 0203 797 7449 Info@crowntrees.co.uk	Liaising with LPA Tree Officer over all arboricultural matters. Initial inspection and signing off of tree protection barriers including ground protection measures. Monthly site visits and inspections. Reporting to the local authority following site inspections and any variation or incidents.
Local Authority	London Borough of Camden	Insert Details	Receipt of reports from the appointed arborist. Liaising with the appointed arborist to agree suitability of tree protection measures and any variations. Enforcement. Advice and assistance with the discharge of planning conditions relating to trees.
Additional Contact	Insert Details	Insert Details	Insert Details
Additional Contact	Insert Details	Insert Details	Insert Details

Site Monitoring Schedule

Inspection	Site Attendees	Comments
Pre-Start Desk-top 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.
Pre-Start Meeting After vegetation clearance & tree protection barriers installed. Prior to any other activity, inc. demolition & soil stripping.	Site manager, project arborist, Tree Officer invited.	Tree protection fencing locations & specification checked. Contractors to be inducted to all relevant aspects of the Arboricultural Method Statement. Responsibilities checked and acknowledged. Adherence to the Arboricultural Method Statement to be discussed and agreed.
Monthly Inspection and Reporting To occur once per calendar month throughout the entirety of the project until the local authority agree that tree protection measures may be removed	Site manager and project arborist.*	Tree protection fencing locations & specification checked. Past month, present and future month – activities and adherence to Arboricultural Method Statement discussed and checked.

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

Tree Schedule

Tree Reference	Age & Species	Height (m)	Crown Spread (m)	Crown W	Crown S	Crown E	Scaled Tree Diagram (m)	Notes	Recommendations			Priority	Form	Health / Physiological Condition	Arborist Value Life Expectancy (yrs)
									Priority	Form	Health / Physiological Condition				
T1	Early-Mature Tree Of Heaven	14	5	4	5	6		Position: Situated on third party land. Form: Two stemmed and vertical with a balanced crown. History: No evidence of significant pruning. Defects: No significant defects observed. Other: Limited inspection, dimensions estimated.	No action required.	Moderate	Good	40+	B-		
T2	Semi-Mature Lawson Cypress	6.5	2	2	2	2.5		Position: Situated on third party land. Form: Single stemmed and vertical with a balanced crown. History: Previously topped at 6m. Defects: No significant defects observed. Other: Limited inspection, dimensions estimated.	No action required.	Moderate	Good	40+	C		
S3	Semi-Mature Cherry Laurel	3.5	0	14	2	1		Form: Shrub. History: Managed through cyclical trimming. Defects: No significant defects observed. Other: Recorded stem diameter is equivalent for two stems (10cm, 9cm).	No action required.	Moderate	Good	20-40	C		
T4	Semi-Mature Lime	16	25	37	35	35		Position: Adjacent street. Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. Defects: No significant defects.	No action required.	Moderate	Good	40+	B		
T5	Semi-Mature Lime	16	25	24	4	4		Position: Situated on third party land. Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. Defects: No significant defects.	No action required.	Moderate	Good	40+	B		

BS 5837 Root Protection Area (radius = 12xstem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of existing road or building.

Root Protection Area having been amended to account for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

Tree Retention Categories

Stems & Canopies shown

- Category A tree
- Category B tree
- Category C tree
- Category U tree

Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.

Trees of moderate quality with a life expectancy of 10+ years. Usually medium trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees

Unremarkable trees of low quality and more. Individual specimens are not considered to be a material planning consideration.

Trees unsuitable for retention due to their very poor condition.

Drawing No: **CCL 11342** / TPP Rev: 1

Title: **Tree Protection Plan**
(Existing Layout with Proposals Overlaid)

Site: 26 Belzise Avenue
NW3 4AU

Scale: 1:100 Paper Size: A1

