

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.	Pre-Construction Phase	Install the tree protection barriers (fencing and ground protection boards - see Headers -Tree Protection Barriers and Ground Protection Measures).
3rd.		Pre-commencement site meeting: Tree protection barriers inspected. Additional protection measures to be agreed. Variances to be agreed. Scope of future inspections / monitoring to be agreed.
4th.		Arboricultural Method Statement to be revised and approved (if necessary). Protection measures confirmed acceptable by the project arborist
5th.	Demolition and Construction Phase	Demolish existing structures.
6th.		Install new wall and piers taking into account restricted activities as specified in this Arboricultural Method Statement.
7th.	Post-Construction Phase	Site meeting with project arborist, of retained trees to be assessed and mitigation agreed. Ground conditions to be assessed and ground remediation to be agreed.
8th.		Remove protective barriers (fencing and ground protection measures as applicable).

Tree Protection Barriers

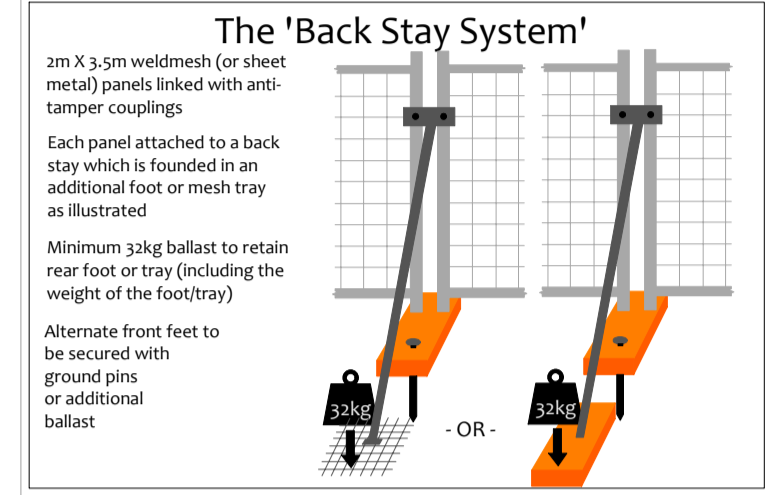
The purpose of tree protection barriers is to keep construction activity away from Restricted Activity Zones or Construction Exclusion Zones. They must be appropriate to the nature and proximity of activity within the site. The barriers must be erected prior to the commencement of all activity including demolition, soil stripping and delivery of materials and demolition (except where 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 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.

When this system, weldmesh fencing panels (minimum height 2m) are affixed into rubber or concrete feet and clamped 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 ballast secured with ground pins or additional ballast. Where ground pins are not used, the total weight of the footplate plus ballast must total no less than 35kg.

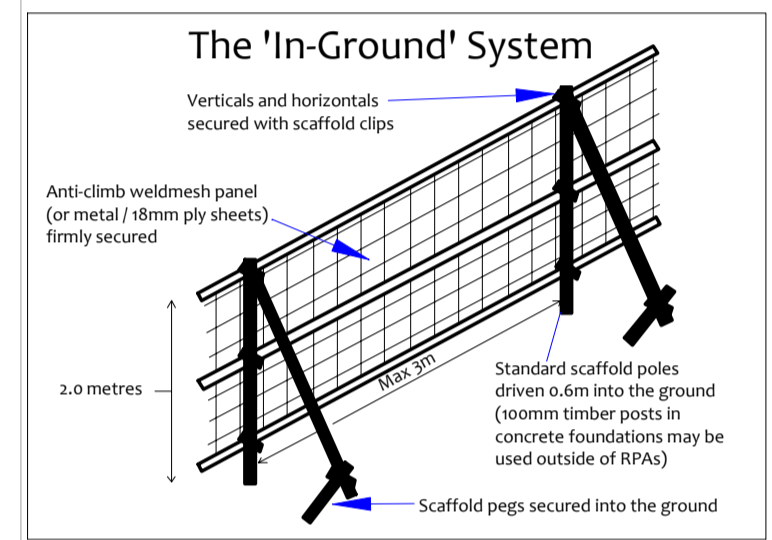
Where it is not possible to install diagonal struts (such as very close to a hedge) then the front feet will be secured using ground pins or ballast.



The In-Ground System N/A

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 5337 guidelines.



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 slipping. The ground will be made even by raking, and by adding a norm 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 adjoiner 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 sooms of 750mm angular gravel installed in 3D cellular confinement system (e.g. Cellweb11A).

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 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.

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. Reporting to the local authority following site inspections and any variation or incidents. Day to day monitoring of tree protection measures. Fortnightly supply of site photographs showing all tree protection measures. Reporting to the Appointed Arborist of any incidents or potential variations to the agreed tree protection measures.
Site Manager	Insert Details	Insert Details	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.
Project Arborist	Crown Tree Consultancy	08000 1413 30 0203 797 7449 info@crowntrees.co.uk	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.
Local Authority	London Borough of Richmond upon Thames	Customer Services 0208 851 1411 trees&sparks@richmond.gov.uk	
Additional Contact	Insert Details	Insert Details	Insert Details
Additional Contact	Insert Details	Insert Details	Insert Details

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 and/or maintained as specified under the heading Ground Protection Measures. This will remain in place throughout the entire demolition and construction phase or until any new permanent hard surfacing is installed. Any pedestrian activity (other than very occasional) will also require a suitable load spreading surface.
- Removal of existing structures such as walls, steps and hard surfaces (where applicable) will be undertaken using hand tools or a mechanical excavator operating from outside the Restricted Activity Zone and carefully managed by the project arborist.
- No excavation will occur in this zone without consulting the project arborist and obtaining approval from the local authority.
- Existing ground levels will be retained undisturbed.
- 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 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 sack during times that they are unearthed. Any roots in excess of 50mm that need to be severed will be pruned with secateurs.
- No materials or spoil shall be stored within 3m of any tree stem.
- All hazardous materials (including non-essential cement products) will be forbidden other than mixing of cement as detailed under the heading Hazardous Materials below.
- No fires will be permitted.

Restricted Activity Zone B

When demolishing the existing boundary wall, the following mitigation is proposed:

- Demolition will not commence until the protective barriers (including ground protection measures) are installed to the satisfaction of the local authority.
- Only hand tools shall be used.
- No excavation shall take place and the existing foundations shall remain intact.
- No materials shall be stored within 3m of any tree stem.

When building the new wall and piers, the following mitigation is proposed:

- The existing foundations for the old boundary wall shall be retained and reused.
- No excavation whatsoever shall occur.
- No plant machinery shall be used during the build.
- No materials shall be stored within 3m of any tree stem.

Restricted Activity Zone C

When demolishing the existing boundary wall, the following mitigation is proposed:

- Demolition will not commence until the protective barriers (including ground protection measures) are installed to the satisfaction of the local authority.
- Only hand tools shall be used.
- No excavation shall be stored within 3m of any tree stem.

When building the new piers, the following mitigation is proposed:

- Excavation shall be undertaken using hand tools only.
- Excavation shall be kept to the minimum possible to install the pier foundations.
- Excavation shall be limited to 600mm depth.
- All roots in excess of 25mm diameter shall be retained.

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.

Use of Heavy Plant

All machinery operatives are to be made aware of any Construction Exclusion Zones and Restricted Activity Zones that apply to this site.

All machinery operatives are to respect these zones and ensure that no damage occurs to trees due to the careless use of machinery.

Mechanical excavators will have tracks rather than wheels to help spread their load. They will be carefully marshalled when working close to tree canopies.

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 protection measures.
Pre-Start Meeting After tree works completed & tree protection barriers / ground protection measures installed. Prior to any other activity, inc. demolition & soil stripping.	Site manager, project arborist, Tree Officer invited.	Tree protection fencing locations & specification checked. Ground protection measures 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. Report on findings to be sent to the local authority tree officer.
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. 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.
Post-Construction Meeting 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 where appropriate.

* 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 Data Schedule

Reference No.	Age & Species	Height (m)	Crown Spread (m) W x E	Scaled Tree Diagram (m)	Notes	Recommendations (Priority of any development proposals)	Value (Physiological Condition, Structural Stability)	Arborist Value (LPA Expectancy (Yr) Member Category)
T1	Mature London Plane Platanus x hispanica.	30	3	160 x 12	14	Form: Multi-stemmed at 8m with a balanced crown. History: Occasional pruning wounds due to crown reduction. Defects: Occasional dead wood to 50mm diameter throughout crown.	Remove dead wood. High 1	Moderate Good 20-40 A
T2	Mature Horse Chestnut Aesculus hippocastanum.	16	2	58 x 5	55	Position: Situated on third party land. Form: Single stemmed and vertical with a balanced crown. History: Occasional pruning wounds due to crown lifting. Defects: Several significant decay pockets in old pruning wounds on south side from an above ground level. Other: Limited inspection, dimensions estimated.	Climbed inspection. Moderate 1.5	Moderate Good Fair 20-40 B

