

Arboricultural Method Statement

Site: 87 Gower Street, London, WC1E 6AF Date: 17/06/2020 | Revision: 1 | CCL ref No: 10469



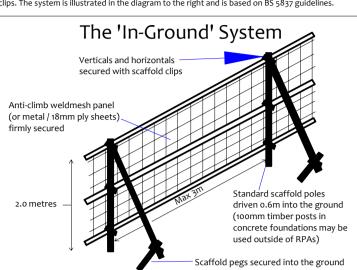


Tree Protection Barriers

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 Ground Protection Measures 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, of construction traffic. Otherwise it shall be reinforced or replaced with adequate ground protection

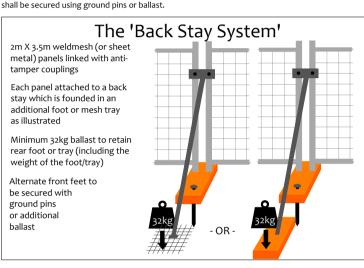
Vertical scaffold poles are driven into the ground, onto which are affixed horizontal scaffold poles Unless specified otherwise, ground protection shall consist of 24mm OSB boards laid at double and diagonal bracing struts. Weldmesh panels (or similar – e.g. Heras type fencing panels, or 18mm+ thickness and screwed together to prevent slippage. The ground shall first be made even by raking, plywood boards) are secured to this scaffold framework using sturdy clips e.g. standard scaffold or by adding a few centimetres of sand or woodchip. Where only pedestrian traffic will occur boards 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 baseplate secured with ground pins or additional ballast. Where ground pins are not used, the total weight of the foot/plate plus ballast should total not less than 32kg. 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.



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

Restrictions in Specific Zones Restricted Activity Zone A Within this zone trees roots are likely to be present where access will be required to facilitate

> No vehicles or plant machinery shall park or operate unless a suitable load spreading ground protection measures are installed to the satisfaction of the local authority. specified under the heading Ground Protection Measures. This shall remain in place Fires hroughout the entire construction phase or until any new permanent hard surfacing Removal of existing structures such as, walls, steps and hard surfaces (where fires shall be permitted in the vicinity of any exposed tree roots. applicable) shall be undertaken using hand tools or a mechanical excavator operating

beneath the foundations of any structure such as wall, steps or patio. • No further excavation shall occur in this zone without consulting the project arborist | • If materials require installation or delivery beneath tree canopies, this shall be done without the and obtaining approval from the local authority.

 No new permanent or temporary structures shall be erected other than those shown on the planning application documents unless approved by the local authority.

Storage of Spoil and Materials

Underground services shall not be installed in this area without prior consultation If roots are encountered in excess of 25mm diameter, they shall be retained materials (including non-essential cement products) shall be forbidden. wherever possible and protected with damp sacking during times that they are

unearthed. Any roots in excess of 10mm that need to be severed shall be pruned with

Hazardous Materials Storage of materials and spoil shall be avoided unless it has been agreed with the Any mixing of cement based project arborist that the ground protection measures are adequate to ensure no soil materials shall take place compaction or contamination occurs. All hazardous materials (including non-essential outside the Construction cement products) shall be forbidden. No fires shall be permitted.

Within this zone, demolition is proposed close to T1. The following additional restrictions shall apply: is to be mixed at considerable distances from trees and water • Demolition shall not commence until the protective barriers (including ground run-off cannot enter Root

protection measures) are installed to the satisfaction of the local authority. (Where demolition is necessary to enable the installation of tree protection barriers, this shall further special measures are be done in a sympathetic manner as set out below, and the tree protection barriers required. Otherwise, provision shall be made to ensure that shall be installed as soon as demolition is complete.) Mechanical excavators shall not operate within the Restricted Activity Zone unless from on a suitable load spreading surface.

• Foundations within (or immediately adjacent to) Root Protection Areas will be removed by excavating on the inside of the foundation first and pulling away from the

outside the Restricted Activity Zone and carefully marshalled. Evert effort shall be to the careless use of machinery. made to leave the soils immediately beneath the surface undisturbed.

Where it is proposed to install a pedestrian surface within this zone (indicated on the Tree Protection be carefully marshalled when working close to tree canopies. Plan), the following additional restrictions shall apply:

retained in place of ground protection measures.)

 Excavation shall be undertaken using hand tools only. Excavation shall be limited to 100mm, including any existing vegetation or turf.

Underground Services

• Paviours to be used and dry jointed (i.e. no mortar joints) to permit infiltration of rain water through to the ground beneath. • Storage of materials and spoil shall be avoided unless it has been agreed with the If site hoarding shall be installed over the Root Protection Area of any tree, the following restrictions project arborist that the ground protection measures are adequate to ensure no soil shall apply:

compaction or contamination occurs. All hazardous materials (including non-essential • Ground levels shall be maintained as existing. cement products) shall be forbidden. Restricted Activity Zone B

In this zone foundations are to be installed. In order to minimise the impact on roots it is proposed to utilise the <u>Hand-Dig Method</u>. The following restrictions shall apply: Excavation shall be overseen by the project arborist.

proposed building walls in the direction of the trees. • If roots in excess of 50mm diameter are encountered they shall be retained intact and the foundations shall bridge over them. The exposed roots shall be adequately

within at least 50mm of any root surface. It shall be removed or retained after casting

All services to and from site cabins shall be installed above ground through any Root Protection

as determined best by the project arborist. Enough room will be left surrounding each root to enable future growth (at least 30mm gap containing loose soil or compressible material).

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. • If roots in excess of 25mm but less than 50mm diameter are encountered close to the edge of the excavation, they shall be retained wherever possible and protected with

damp sacking during times that they are unearthed. Any roots that need to be

Removal of Tree Protection Barriers

construction work is complete and their removal has been approved by the appointed arboris

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

Removal of protective fencing or ground protection measures shall be done after all major

or planks may be supported by a scaffold framework. The scaffold may be founded on poles driven into the ground and/or onto blocks (to raise the scaffold) with additional couplings to make the

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.

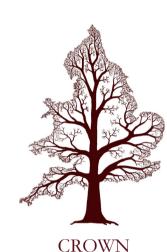
If a piling mat is required, engineer's specifications should be referred to.

The ground protection measures shall 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

Construction Exclusion Zones

Within Construction Exclusion Zones the following restrictions shall apply:

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



Tree Consultancy 01422 316660

General Restrictions - Throughout the Site

marshalled in order to ensure that no branches are damaged.

No demolition, removal of surfaces, or soil stripping shall commence until the protective fencing and

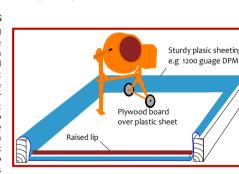
is installed. Any pedestrian activity other than very occasional shall also require a suitable load spreading surface.

No fires shall be permitted beneath any tree canopy or within 5m of any tree stem, branch or foliage. No fires shall be permitted within any Construction Exclusion Zone or Restricted Activity Zone. No

from outside the Restricted Activity Zone and carefully marshalled by the project Canopy Protection In order to protect tree canopies the following restrictions shall apply throughout the site: • No excavation shall occur beneath any existing hard surfacing and its sub-base or | • No machinery in excess of 2m shall pass beneath the canopy of any tree without being carefully

use of overhead cranes. • Existing ground levels shall be retained undisturbed or raised by no more than • If materials are to be installed or delivered close to tree canopies (but not beneath them) and a 150mm. Ground levels may only be raised using granular topsoil (not rich in clay) or crane is required, they shall be carefully marshalled in order to ensure that branches are not accidentally damaged.

Underground services shall not be installed in this area without prior consultation with the project arborist and a methodology agreed and approved by the local authority. Storage of materials and spoil shall 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



Where demolition is required beneath tree canopies, the mechanical excavator shall be carefully marshalled to ensure overhanging branches are not damaged.

Alternatively hand tools may be used.

All other chemicals hazardous to tree health, including petrol and diesel, shall be stored in suitable • No significant masonry or timber shall be permitted to fall outside of buildings towards containers as specified by current COSHH Regulations, and kept away from Root Protection Areas.

trees. No excavation shall take place between the foundation and the tree rooting area.

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

• Surfaces shall be lifted using hand tools or a mechanical excavator operating from All machinery operatives are to respect these zones and ensure that no damage occurs to trees due Mechanical excavators should have tracks rather than wheels to help spread their load. They should

Scaffolding Prior to the new surface being installed, no vehicles or plant machinery shall drive, If scaffolding is required in areas containing ground protection measures, the protective boards shall operate or park until unless ground protection measures are implemented as specified need to remain in-situ and be strengthened and stabilised to bear the weight of scaffold poles. under the heading Ground Protection Measures. (Any existing hard surfacing may be Prior to the installation of any scaffolding within 0.5m of any tree branches, the project arborist shall be consulted to specify any pruning works that may be required

 Any edging structure used shall be installed without excavation below this depth.
 No underground services (including soak-aways) shall be located in any part of the Construction. • Any sub-base used shall have reduced fines content (finely crushed aggregate Exclusion Zones or Restricted Activity Zones unless done so in a manner detailed in a specific Method

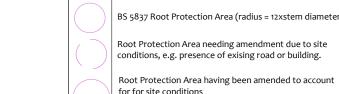
Site Hoarding

 No post hole shall be excavated within 1.5m 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 10mm shall be pruned with sharp secateurs.

• Hand tools shall be used during the excavation to a depth of 600mm. Below this hoarding. It shall be undertaken by a reputable tree surgeon working to BS 3998 (2010). • The excavation shall not extend more than 250mm beyond the footprint of the 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.

shuttered off using timber and a suitable protective packaging material such as damp agreed otherwise by the project arborist. Where this is being considered, the project arborist shall be • Any shuttering structure shall be designed to prevent any ingress of concrete to

Tree Protection Plan



for for site conditions T1 = Tree No 1 G_2 = Group No 2 H_3 = Hedge No 3

Tree Retention Categories Category A tree Category B tree Category C tree

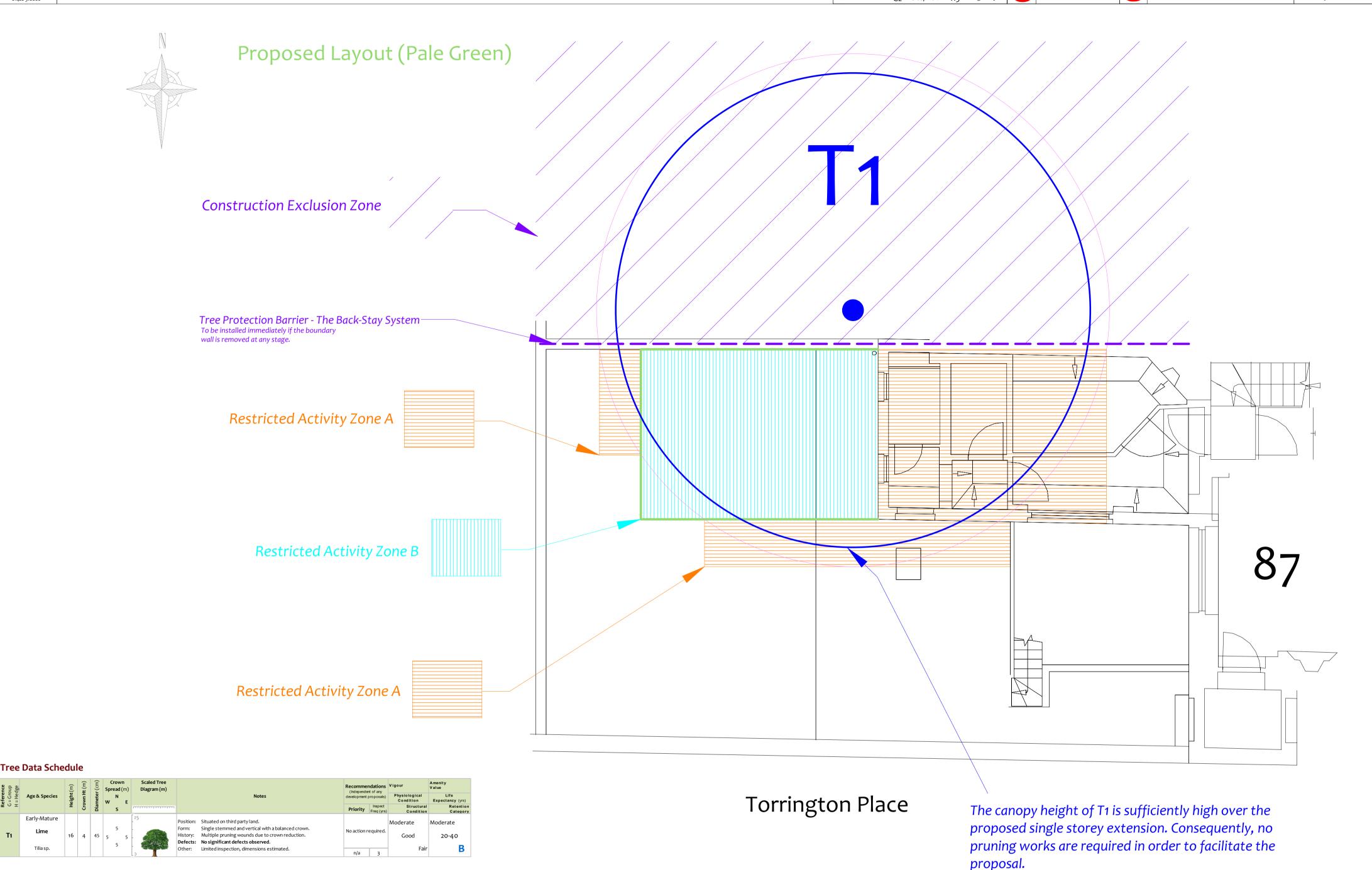
Category U tree

Usually maturing trees, or younger trees with good form. Retense trees is desirable though less than Category A trees

Trees unsuitable for retention due to their very poor condition

Orawing No: | CCL 10469 Tree Protection Plan (Existing Layout with Proposals Overlaid) 87 Gower Street, London

Paper Size: A1



Timing of Operations

Activity within the site shall be phased according to the following chronology Order Phase Activity Planning conditions relating to trees to be identified and discussed with the Project arborist and site manager. Install the tree protection barriers where applicable (fencing and ground protection boards - see Headers -Tree Protection Barriers and Ground Protection Measures). 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. Arboricultural Method Statement to be revised and approved. Protection measures confirmed acceptable by the local authority Demolish existing structures and remove existing surfaces where applicable. Construction Install new buildings, hard surfaces and services taking into account restricted activities as specified in this Arboricultural Phase 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. Remove protective barriers (fencing and ground protection measures as applicable). Post-Construction Undertake restricted landscaping operations within Root Protection Areas, including (where applicable) boundary Phase

treatments, pedestrian surfaces, decking and any proposed tree planting.

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 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. Additional ground protection measures checked. Further protection measures / restrictions agreed.
Excavation for building foundations within Restricted Activity Zone B	Site manager, project arborist. Tree Officer invited.	Two week's notice to be given prior to excavation. Excavation to be as specified in this Method Statement. Excavations to be recorded and photographed. Mitigation measures to be employed specified by the project arborist.
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. Further landscaping operations and restrictions to be agreed.

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. Oversight of excavation for basement down to 1.2m in Restricted Zones. Reporting to the local authority following site inspections and any variation or incidents.
Local Authority	London Borough of Camden	Tree Team 020 7974 4444	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