

ARBORICULTURAL METHOD STATEMENT

Tree Protection Barriers Detailed Specification

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 dashed black 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.

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.

Ground Protection Measures

Within the Restricted Activity Zone, 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 and reinforced (where applicable and adequate), otherwise suitable new ground protection measures shall be installed. The ground protection shall need to be able to adequately spread the load of construction traffic. Where existing hard surfacing is to be retained, it shall not be necessary to install additional ground protection measures. However, the hard surfacing must be firm enough to spread the load of any traffic passing overhead.

Where only pedestrian traffic will occur, the ground protection measures may be as simple as timber boards, or scaffold planks installed directly onto a geotextile fabric on the ground. The ground should first be made even by raking, or by adding a few centimetres of sand or woodchip. Alternatively the boards 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 framework secure.

Where only light vehicles are to operate (e.g. barrows, trolleys or occasional cars), thick wooden boards or scaffold planks should also suffice, though at least 150m of compressible woodchip will need to be installed first to help spread the load. Sturdier systems are specified below:

Where cars will regularly park or heavier vehicles/plant machinery will occasionally operate, sturdier ground protection measures will be required such as metal road plates, or purpose built synthetic road mats over a compression resistant layer such as 150mm of woodchip or 100mm of a 3D cellular confinement system in-filled with 7-40mm angular gravel (e.g. CellwebTM -).

Where existing structures need to be removed, this shall be done with temporary ground protection measures in place to enable this to be achieved without compacting soils.

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 with a new hard surface.

GENERAL RESTRICTIONS SITEWIDE

Preparatory Works

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

Fires

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 fires shall be permitted in the vicinity of any exposed tree roots.

Canopy Protection

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

- No machinery in excess of 2m shall 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 shall 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 shall be carefully marshalled in order to ensure that branches are not accidentally damaged.

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.

Storage of Spoil and Materials

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 materials (including nonessential cement products) shall be forbidden.

Hazardous Materials

Any mixing of cement based materials shall take place outside the Construction Exclusion Zones 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 shall be made to ensure that the mixing area is contained so that no water run-off enters the Root Protection Area of any trees. Mixers and barrows shall be cleaned within this area. 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.

RESTRICTED ACTIVITY ZONE

Hand operated tools shall be used to lift existing surface wherever practicable. Where this is not practicable, plant machinery may be used. However, the project arborist shall be consulted first to agree on methodology and supervision requirements. Plant machinery should operate from outside the Restricted Activity Zone wherever possible.

The surface should be removed in as small sections as practicable.

The project arborist shall be made aware and shall oversee all significant excavation and resurfacing.

Any excavation beneath the existing hard surface shall be kept to an absolute minimum and shall be carefully undertaken using hand tools. No excavation shall occur beneath the existing aggregate.

If any roots in excess of 50mm are unearthed, they shall be retained and an engineering solution shall be employed to ensure that such roots are retained. If necessary, finished ground levels shall be raised close to trees.

All 25 to 50mm roots shall be retained, unless the project arborist deems that they may be removed. In which case they shall be neatly pruned.

Roots between 10mm and 25mm that need to be removed shall also be neatly pruned with sharp secateurs.

Exposed roots shall be protected with damp soil or hessian sacking.

Where root pruning has occurred immediately below a proposed hard surface, fertile soils shall NOT be used as backfill.

Following removal of the existing surface but prior to installation of the new surface, no vehicles or plant machinery shall drive, operate or park until unless a suitable load spreading surface is installed as specified under the heading *Ground Protection Measures*.

NEW SURFACES

No-Dig Surface: Ground Preparation

This section specifies the No-Dig Method which must be used when installing any new hard surface surfaces in Restricted Zones.

Ground Preparation: Existing Hard Ground

Where a hard surface already exists this shall be carefully removed in as small sections as possible and overseen by the project arborist.

Small plant machinery (such as a Bobcat) may be used if carefully marshalled by the project arborist. If possible, the machinery should operate from outside of RPAs. Otherwise, suitable ground protection should be installed to prevent soil compaction over tree roots.

The aggregate sub-base may be retained & reused. Otherwise it shall be carefully removed using hand tools so long as it does not contain any roots in excess of 25mm diameter.

Ground Preparation: Existing Soft Ground - for installation of the Decking

Shrubs and perennials should be removed. Turf maybe lifted to a depth of 50mm using a hand operated turf lifting machine or a spade. Mechanical excavators shall not be used.

Herbaceous roots may be removed using hand tools such as a garden fork or hand trowel. If any shrubs or trees have been removed, their roots may also be removed using hand tools.

If the soils are firm enough all excavation should then cease.



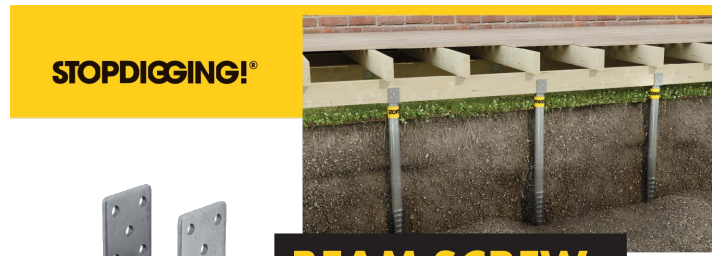
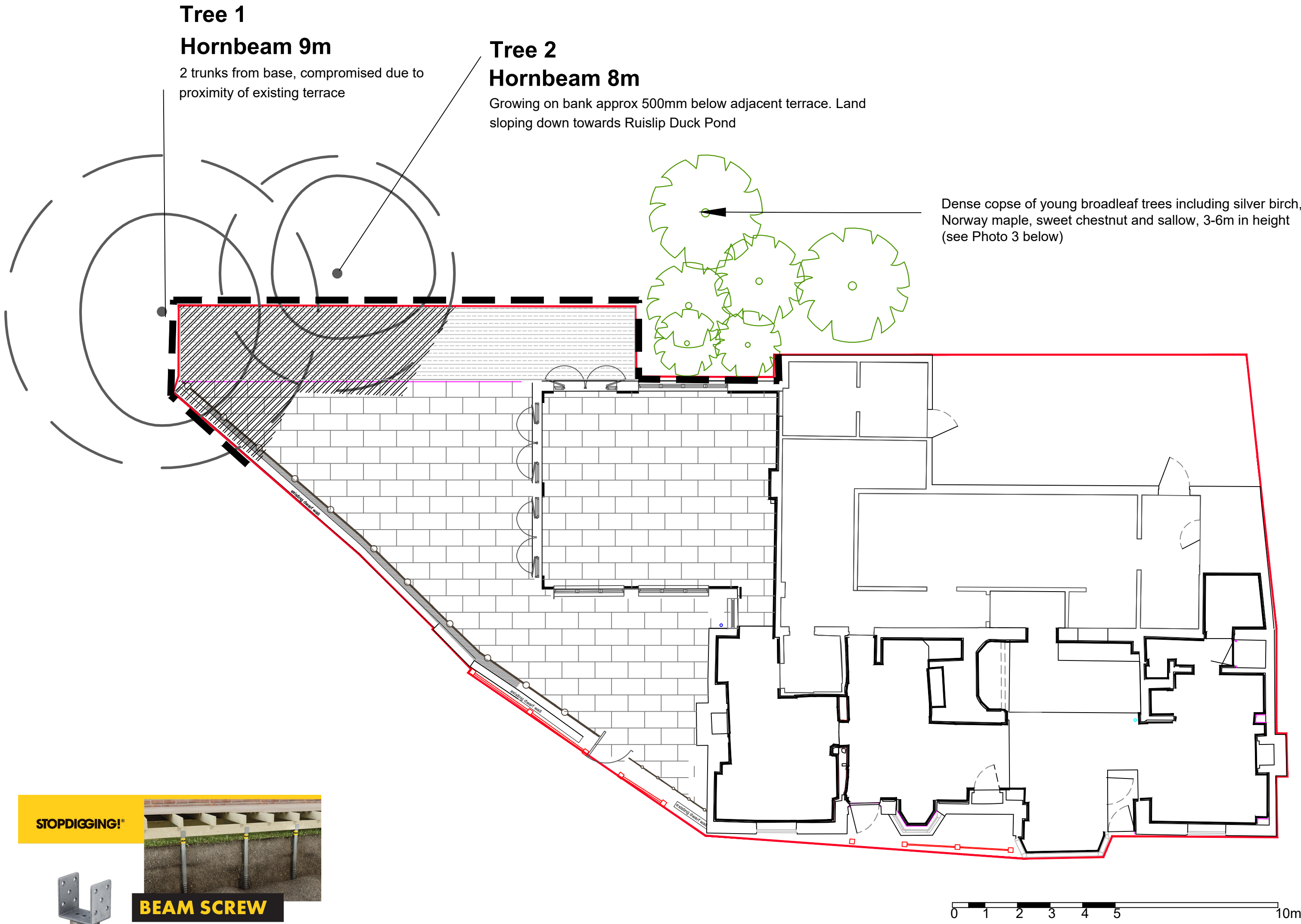
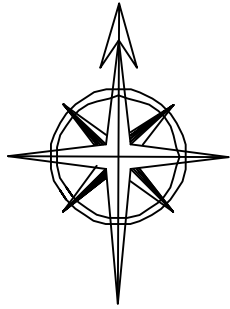
Tree 1 on the left and Tree 2 on the right



Tree 2 on the left and Tree 1 on the right



Copse of trees to edge of the duck pond

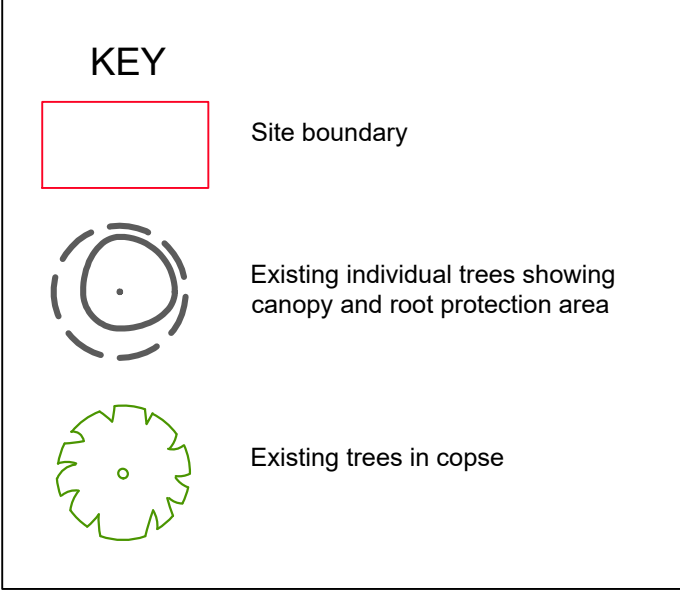


Our beam screws are perfect for supporting beams and joists in a variety of circumstances, for example the joist in a garden deck. The screws have a long, narrow, angled 10° tip which fits into the most standard dimensions of timber. The screws are available in two thicknesses and two lengths, which makes it possible to maintain a level board on uneven ground without losing stability. The beam screw also has a strong U profile with five screw holes per side for a secure fastening of joists, rails and other beams. Forget the cumbersome level adjustment of concrete piers, the screw makes leveling a breeze in minutes.

SIZE	16x180	16x240	16x300	16x360	16x420
SCREEN LENGTH	580 mm	845 mm	1000 mm	1200 mm	1400 mm
OUTER DIAMETER	40 mm	40 mm	47 mm	47 mm	47 mm
PROFILE HEIGHT	100 mm	100 mm	100 mm	100 mm	100 mm
PROFILE WIDTH	95 mm	95 mm	95 mm	95 mm	95 mm
COMPRESSION CAPACITY	3.5 kN	4 kN	10.5 kN	12.5 kN	17.5 kN
TENSION CAPACITY	1.7 kN	4.5 kN	5.5 kN	6.5 kN	9 kN
LATERAL CAPACITY	0.5 kN	2.5 kN	3.5 kN	4.5 kN	7.5 kN



Data sheet for Beam Ground Screw onto which frame of deck can be screwed

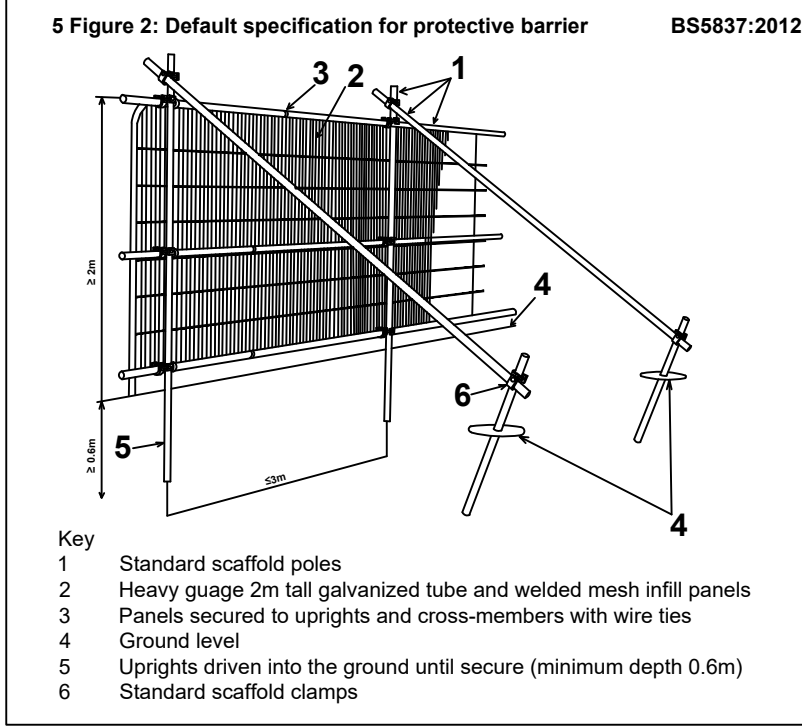


Tree protection and special construction

Tree protection fence during construction. To be erected before any demolition or construction work starts on site and removed only when all external works are completed.

Fencing to be to BS 5837:2012, Figure 2. No works, excavation, storage of materials or any other activity to take place within protected areas.

Construction of hard surfacing within the tree protection fenced area to be without any excavation of existing soil and in accordance with clauses 7.4.2, 7.4.3 and 7.4.4 of BS5837:2012. Tree protection fence only to be removed immediately before this construction commences then re-erected around the edge of this paving.



Installing the New Surface - Decking

- Recommended least invasive deck construction for this site with sloping ground conditions is *STOP DIGGING GROUND SCREW FOUNDATIONS*. Other methods such as a cellular confinement method or Raft system are available, but more suited to alternative surface finishes.
- The screw pile locations are marked out with shallow depth pegs by a certified and experienced Stop Digging installer.
- The locations are tested by driving a hole with a metal bar by hand, slowly, going down in stages to see if there are any significant tree roots in that area. If any roots >25mm diameter are discovered, then the screw pile pilot hole must be relocated to the nearest possible location that is free of roots.
- The installer will then carefully pre-drill a hole ensuring it does not encounter any major roots. The pre-drilling will then continue to the desired length of the screw to be installed.
- This operation is repeated across the span of the whole deck in locations as directed by Stop Digging installer / Ground Screw specialist contractor.
- For sloped or undulating ground, ground screws can be left at different heights to facilitate an even surface in order to accommodate the change in levels.
- Beam screws are then installed - see diagram below, onto which a floating frame can be constructed, thus spreading the load.
- Joists are then fixed to the frame.
- Finally the finished deck surface is screwed onto the joists.

Site:		Zaza Restaurant, High Street, Ruislip HA4 7AR		
Drawing Ref.		23/0903 - rev.A		
Drawing Title:		Tree Protection Plan		
Stage:		PLANNING		
Scale		1 : 100 @ A1 (DO NOT SCALE)		
Date		25/09/2023		
Client		Zaza Restaurant		
Rev.	Description		Drawn	Date
A	Deck reinstated & method statement added		CJO	19-Oct-23
CHRISTINA ODELL, CHARTERED LANDSCAPE ARCHITECT				
7 St Margarets Terrace, St Leonards-on-Sea, East Sussex TN37 6EN christinajodell@gmail.com 0781 8566522				