

**SECTION  
TYPICAL  
CONCRETE PAD  
FOOTING**  
SCALE 1:10

**DISTANCE FROM TOP OF  
BRACKET TO GROUND LEVEL**  
70MM +/- (20MM)

**SWIFT INTERLOCKING  
BASE STONE**

**MIN 500mm**

**TYPE 1 MOT  
SUB-BASE**

**SWIFT TOP  
STONE**

**GROUND PREPARATION**

**Groundworks Procedure**

- Ground to be cleared of vegetation and level
- Minimum excavation of pad depth 500mm subject to ground conditions or to suitable firm base
- Excavated pad area to be well compacted prior to laying minimum 500mm type 1 sub-base in 200mm layers
- Top of sub-base to be well compacted
- Swift Top Stones to be positioned level with ground.
- All levels to be within 25mm tolerance.

**HEIGHT OF SWIFT TOP STONE**  
(TOP OF SWIFT TOP STONE TO BE  
CLOSE TO GROUND LEVEL)

**PROPOSED FOUNDATIONS**  
SCALE 1:10

<b>DRAWING</b> PROPOSED FOUNDATIONS	<b>NOTES</b>
<b>STATUS</b> PLANNING	

<b>DRAWN BY</b> JW	<b>CHECKED BY</b>	<b>SCALE</b> 1/10 @ A4	<b>DATE</b> 23.07.20
<b>DRAWING NUMBER</b> ECO.SWF.02			<b>REVISION</b> -

<b>PROJECT</b> SWIFT FOUNDATIONS	<b>SITE ADDRESS</b> N/A
<b>STAGE</b> PLANNING	

**ecospace**  
architecture, naturally

5A/6A ILIFFE YARD  
LONDON SE17 3QA  
T: 020 7703 4004  
F: 020 7708 4750  
E: info@ecospacestudios.com

# Hand Digging & Tree Roots

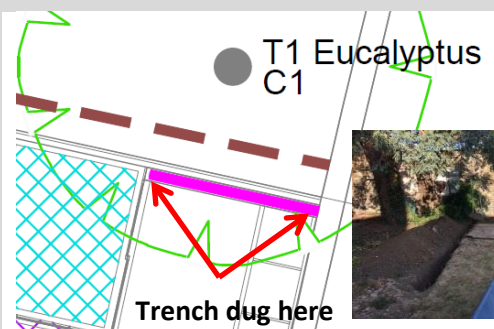
Where excavations or lowering ground levels may be needed within the [BS5837](#) Root Protection Area (RPA) of a tree it may be necessary to undertake some form of investigation to identify if roots >25mm are present. Ideally ground excavation would be by [airspade](#) but this is not always practical (access) or cost effective relative to the scheme (crossovers etc.).

Careful hand digging can therefore be useful approach.

**Plan the excavation:** The trench should be located along the leading edge where level changes/ foundations are proposed and at the point closest to the tree (see inset as guide – the pink line was the leading edge of the proposed foundation). The aim is to retain as many of the roots as possible (even fibrous roots) and the idea is to ‘see’ what is present.

**Roots >25mm must never be severed.**

Digging around tree roots is a skill and you must proceed with caution. Once a root is located it is often necessary to use a combination of hand tools and a stiff hand brush to track and ‘trace’ the roots location.



**How deep?** – The trench need only be as deep as the proposed excavation for the development/ or 1m whichever is more. Please note that hand digging holes deeper than 1m can often be difficult. Sandy soils can often collapse into an open trench and underlying soil type should be considered. The trench need often be only as wide as the spade head (30cm) as the aim is to see what is present crossing the trench and identify if the project can proceed.

**WARNING:** Breaking the ground has the potential to uncover services/ destabilise adjacent structures etc. Some general advice from the HSE can be found [here](#). If the excavation is not on your land the land owner’s permission must be secured. If a tree is located within a Conservation Area or affected by a TPO then the council should be notified of your intentions (but as you intend not to sever or prune exposed roots it should be sufficient just to advise them rather than make an application). In London tree officer details can be found [here](#).

It is usually sufficient to then photograph the exposed roots and immediately back fill the trench. The images should be high quality showing the roots clearly and also a perspective shot showing the tree relative to the trench. Something should be put in the trench to add scale (keys etc.). If a trench is to be left open overnight roots must be wrapped in hessian or backfilled with a loose covering of top soil.

## Recommended Tools



**Narrow Face Spade & Hand Trowel**



**Stiff Hand Brush**



**Hi Vis Paint  
(for spot marking roots)**



**Hessian  
(to wrap exposed roots)**



**Duct Tape  
(to secure hessian)**