

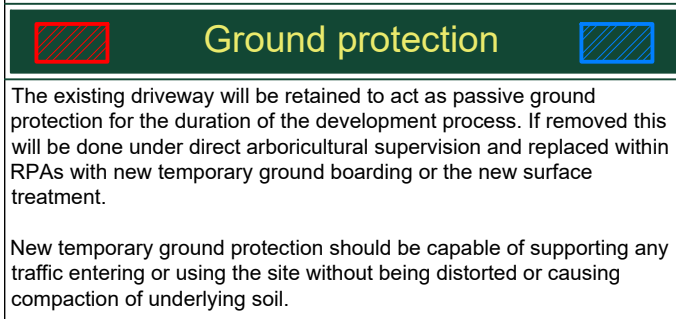
## Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction.

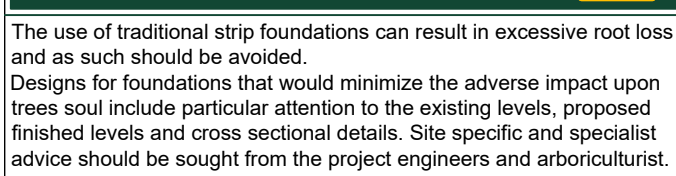
**Detail specification:** To comprise either 2.4m wooden stile hoarding, or a 2.3m high scaffolding framework comprising of vertical and horizontal members, with 2.3m high panels, to resist impacts, with uprights to be spaced at a maximum of 3.0m intervals, and to be secured to the ground by a minimum of 600mm. On this, standard anti-climb welded mesh panels are to be securely fixed to each other with at least two welded clamps and to the scaffolding framework with wire.

Secondary structure of 2m tall welded mesh panels, on rubber or concrete feet. Panels are to be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by stable bracing, which should be attached to a base plate and secured with ground pins.

All weather notices should be erected at regular intervals on the weld mesh panels with words such as "Tree Protection Area - Keep out".

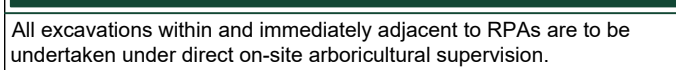


For situations other than those described in a) or b), the ground boarding is to be designed by a suitably qualified person to an engineering specification in conjunction with arboricultural advice, to be able to support the expected loading to be placed upon it.



Slabs for larger structures (e.g. dwellings) should be constructed with a ventilated air space between the underside of the slab and the existing soil surface (to enable gas exchange and venting through the soil surface). In such cases, a specialist irrigation system should be employed (e.g. run-off redirected under the slab). The design of the foundation should take into account of the effect on the load bearing properties of the underlying soil from the redirected run-off. Approval in principle for a foundation that relies on topsoil retention and run-off under the slab should be sought from building control authority prior to this approach being relied upon.

Where piling is to be installed near to trees, the smallest practical pile diameter should be used, as this reduces the possibility of striking major tree roots, and reduces the size of the rig required to sink the piles. If a piling mat is required, this should conform to the parameters for ground boarding. Use of the smallest practical piling rig is also important where piling within the branch spread is proposed, as this can reduce the need for access facilitation pruning. The pile type should be selected bearing in mind the need to protect the soil and adjacent roots from the potentially toxic effects of uncured concrete, e.g. sleeved bored piles or screw piles.



Any roots that are to be cut will be cleanly severed by the project arboriculturist using a suitable hand saw or secateurs. The edge of all excavation closest to the retained trees will be covered over with damp hessian to prevent drying out, and where necessary be shuttered to prevent soil collapse or contamination by concrete.

If appropriate soil beneath the depth of the excavation may be sheet piled, regular piled or have individual piles installed.

**Manual excavation.** Excavations within the RPAs will be initially undertaken by hand under the close supervision and control of a competent person (to be confirmed by the project arboriculturist), whether it is for proposed foundations, hard surfacing or underground services. The soil will be excavated by hand using appropriate tools, such as spades, and then cleared with a shovel and or the aid of an air-spade and air-vac.

**Mechanical excavation.** Mechanical excavation will consist of a mixture of mechanical and manual excavation.

**Excavation equipment.** Excavation equipment used will be fitted with a subsoiled steady, grinding tracking bucket, using a grading / scraping motion rather than digging. During such motion the excavator will not be permitted to dig into the ground. If the bucket is used to dig into the ground, and if any roots are discovered, mechanical excavation will immediately be stopped and manual excavation will take over to expose the root. Upon completion of the excavation, the excavator will be used to backfill the excavations can then continue.

**Excavation safety.** Excavation safety will be to be used will be in accordance with the RPA's of all retained trees on or top of a suitable ground protection.

**Excavation equipment or any other machinery** is to be used within RPAs or beneath canopies that the project arboriculturist will clearly identify the location of any roots that they want and expects to happen prior to any works may commence.

