

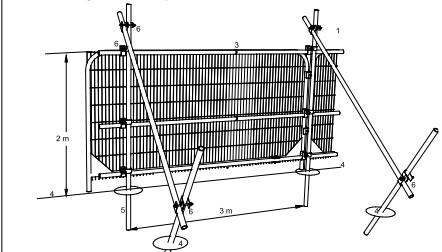
Construction Exclusion Zone

Root protection areas (RPA) of retained trees within which all construction activity is restricted.

All trees that are being retained on site must be protected by barriers and/or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers must be erected to create a construction exclusion zone. Where, due to site constraints, construction activity cannot be fully or permanently excluded in this manner from all or part of a tree's RPA, appropriate ground protection can be installed.

Default position for the tree protection barriers.

BS5837:2012 Figure 2-barrier specification

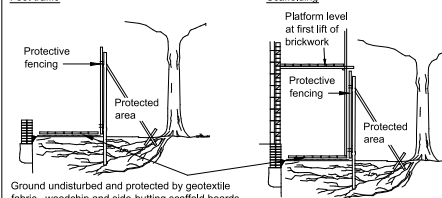


- 1 Standard scaffold poles
- 2 Heavy gauge 2m tall galvanized tube and weld mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6m)
- 6 Standard scaffold clamps

Examples of alternative barrier designs can be found in the method statement. Should an alternative design be more viable and appropriate, it must be agreed with the project arboriculturist before its implementation.

Ground Protection
Where the set-back of the tree protection barrier would expose unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

Foot traffic



Ground undisturbed and protected by geotextile fabric, woodchip and side-butting scaffold boards

For pedestrian movements only, a single thickness of scaffold boards should be placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile.

For pedestrian operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards should be placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile.

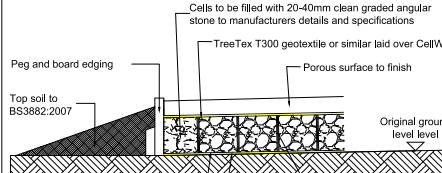
For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. pre-cast reinforced concrete slabs) should be employed to an engineering specification designed in conjunction with arboricultural advice to accommodate the likely loading to which it will be subjected.

TEMPORARY FENCING

The fencing is used to protect areas of special detail. It is to be installed with the main tree protection fence and is only to be removed when the detail is installed as per the method statement & under the supervision of the project arboriculturist. It shall be weld-mesh panels on boots, secured to the ground with road pins (or similar).

NO-DIG SURFACE

Cellular confinement system (CCS) to be used to create this area of hard surface, above the existing ground level. Topsoil to be retained. Depth of CCS to be 50-75mm for pedestrian surfaces and 100-200 for vehicular surfaces. Surface to be porous to approved details and specifications. To be installed under arboricultural supervision. **All specifications subject to engineering design.**



Depressions and soft spots in formation to be filled with sharp sand to levels required

CCS/Cellular confinement system (Geosynthetics CellWeb or similar approved)

TREE TO BE REMOVED

- A CATEGORY TREE
- B CATEGORY TREE
- C CATEGORY TREE
- U CATEGORY TREE

ROOT PROTECTION AREA (RPA) FOR RETAINED TREES

SUPERVISED EXCAVATION

This area of highway is to be installed within the RPA of adjacent retained trees. Therefore, to minimise impact any excavation shall be as per the method statement & under the supervision of the project arboriculturist.

RESTRICTIONS WITHIN TREE PROTECTION AREAS

- Inside the exclusion area of the fencing, the following shall apply:
 - No mechanical excavation whatsoever
 - No excavation by any other means without arboricultural site supervision
 - No hand digging without a written method statement having first been approved by the project arboriculturist.
 - No lowering of levels for any purpose (except removal of grass sward using hand tools)
 - No storage of plant or materials
 - No storage or handling of any chemical including cement washings
 - No vehicular access
 - No fire lighting
- In addition to the above, further precautions are necessary adjacent to trees:
 - No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builders sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection areas of retained trees
 - No fire shall be lit such that flames come within 5m of tree foliage.

PHASING & SUPERVISION OF DEVELOPMENT

Before any work starts on site, the tree protection measures shown on this plan are to be installed and a pre-start site meeting with the project arboriculturist, groundwork contractors and site manager held.

Additional site supervision and input from the project arboriculturist is to occur:

1. During the no-dig drive surfacing
2. During the excavation for the new road within the RPAs of T25 & T26

Supervision is also required should any unplanned access and/or work be required in the construction exclusion zone



WHY TREE PROTECTION IS NEEDED

- 1) **Soil compaction kills roots**- caused by plant movement and storage of materials within protected areas.
- 2) **Trenching severs roots**- many small roots grow within the top 600mm of soil. Even the removal of the top 200mm can cause damage.
- 3) **Soil pollution kills roots**- Dripping fuel storage or cement washings can contaminate the soil resulting in root death.
- 4) **Raising & lowering levels kills roots**- the soil used to increase levels can compact the underlying soil (see point 1). Lowering levels will remove roots causing damage to the tree.
- 5) **Bark and branch damage**- bark removal and branch damage can allow disease and fungi into the tree.

The impact of any of the above can take years to show- trees can have huge reserves of food and water.



The original of this drawing was produced in colour-a monochrome copy should not be relied upon.



Rev Date Details Drawn

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